Docket No. 5033-1-0002

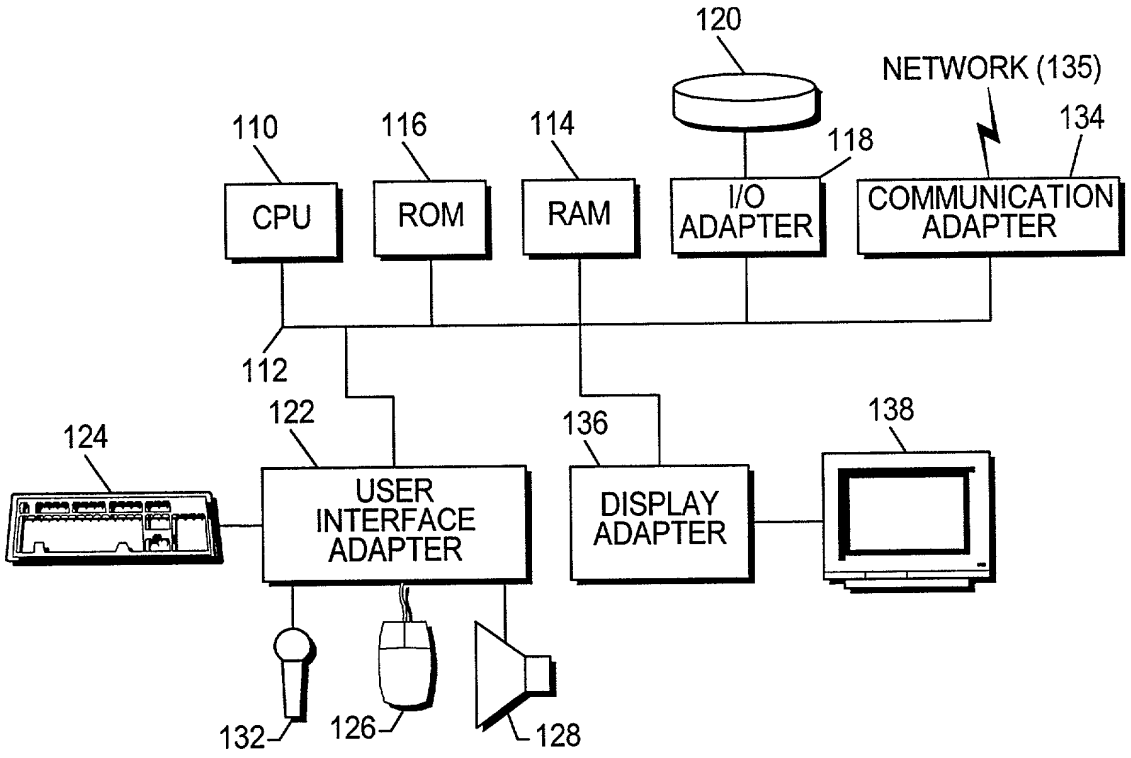


FIGURE 1

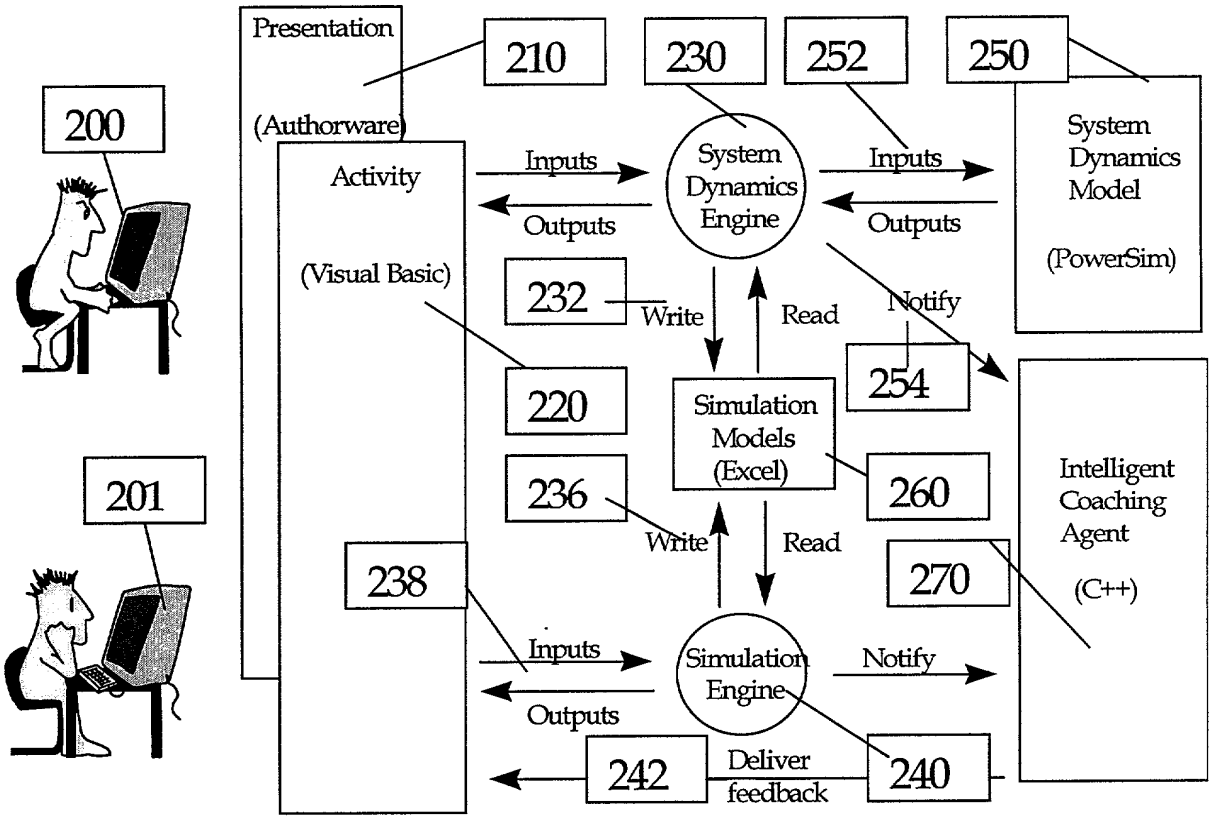

200
201
Presentation
(Authorware)
210
230
252
250
System Dynamics Model
(PowerSim)
Activity
(Visual Basic)
Inputs
Outputs
System Dynamics Engine
Inputs
Outputs
232
Write
Read
Notify
254
220
Simulation Models (Excel)
260
236
Write
Read
270
Intelligent Coaching Agent
(C++)
238
Inputs
Outputs
Simulation Engine
Notify
242
Deliver feedback
240

FIGURE 2

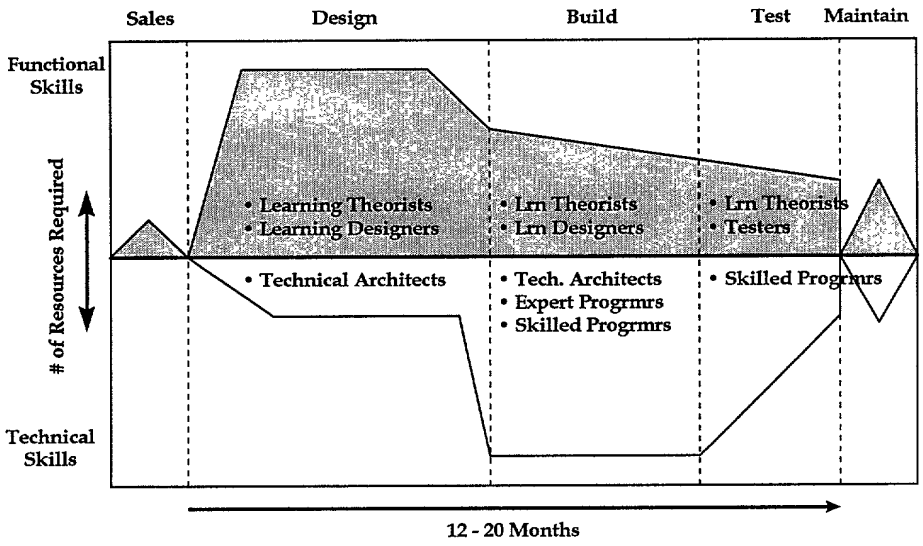


FIGURE 3

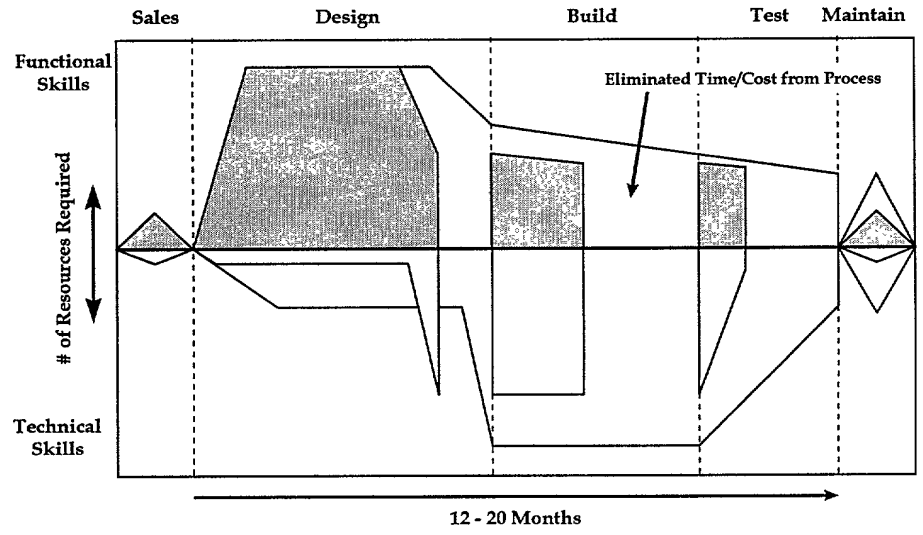


FIGURE 4

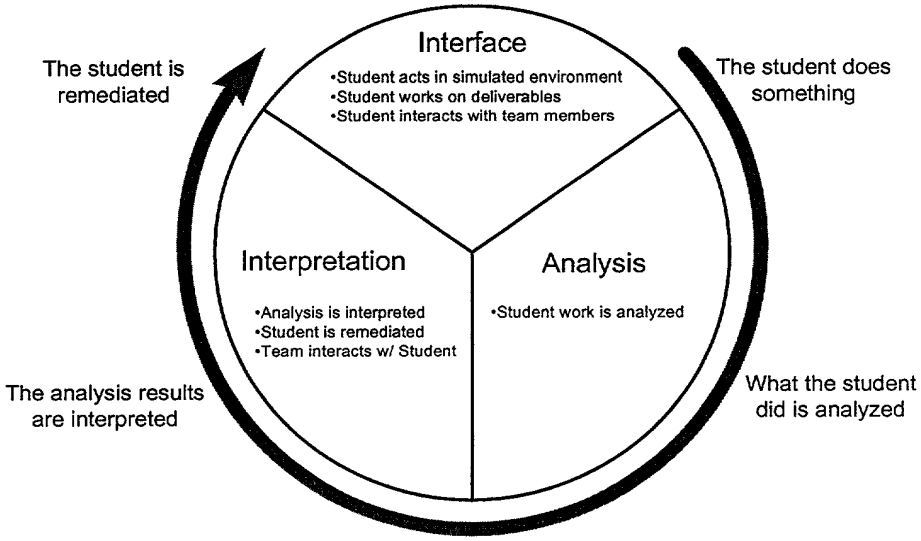


FIGURE 5

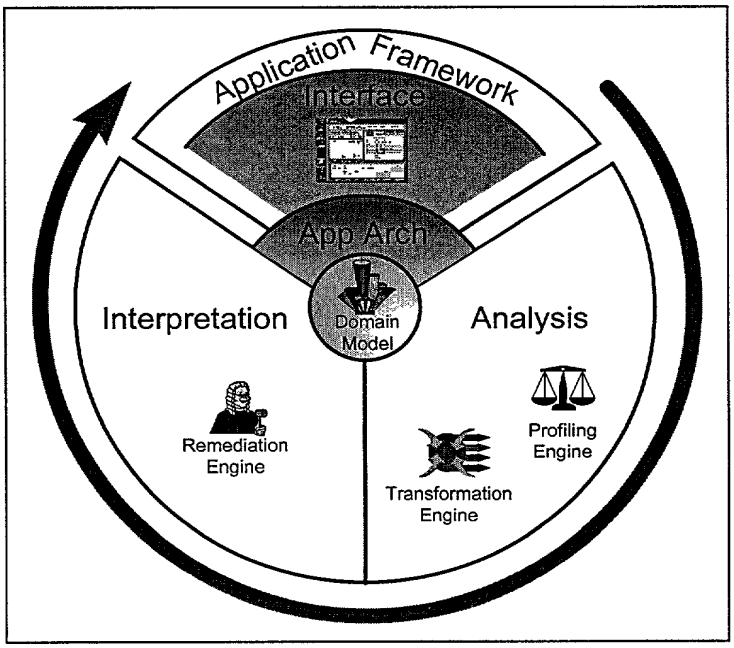


FIGURE 6

5,963,950 - 10/05/1999

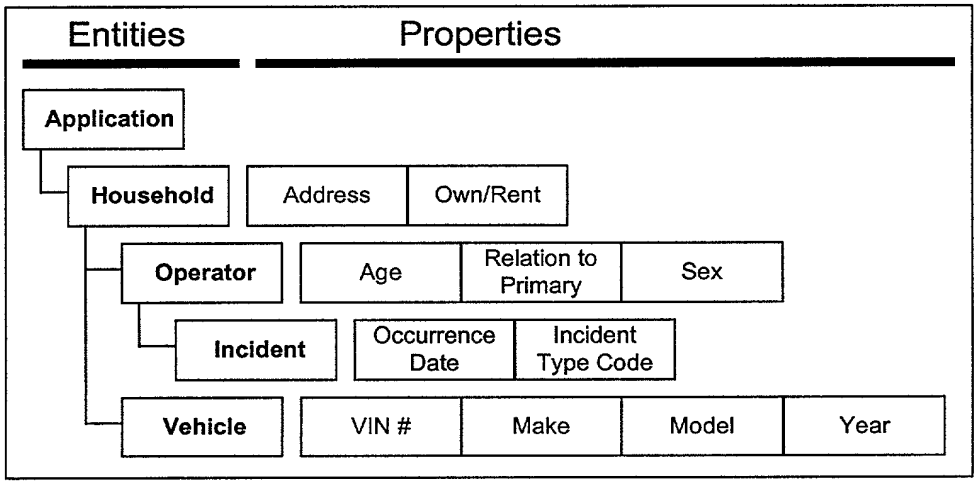


FIGURE 7

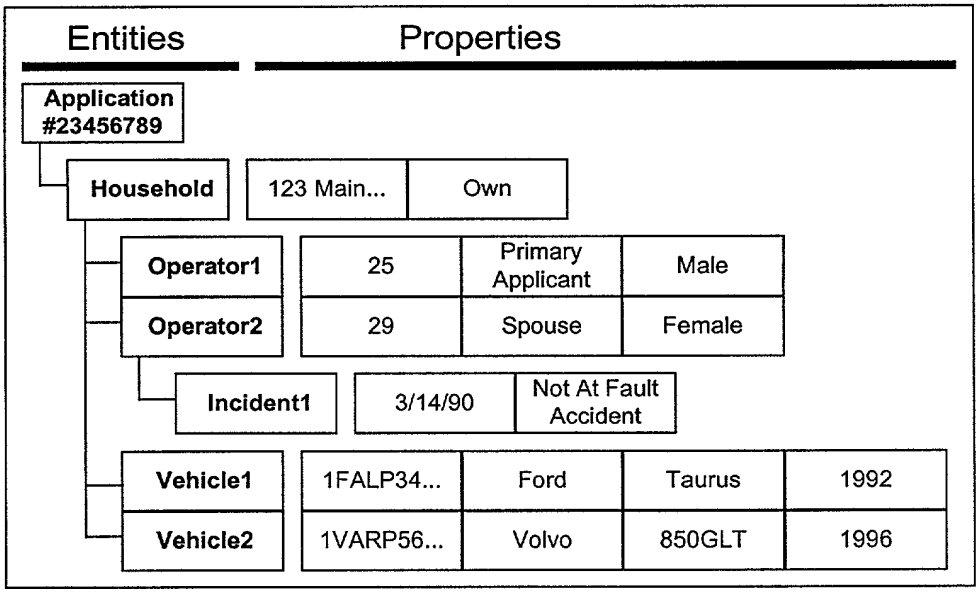


FIGURE 8

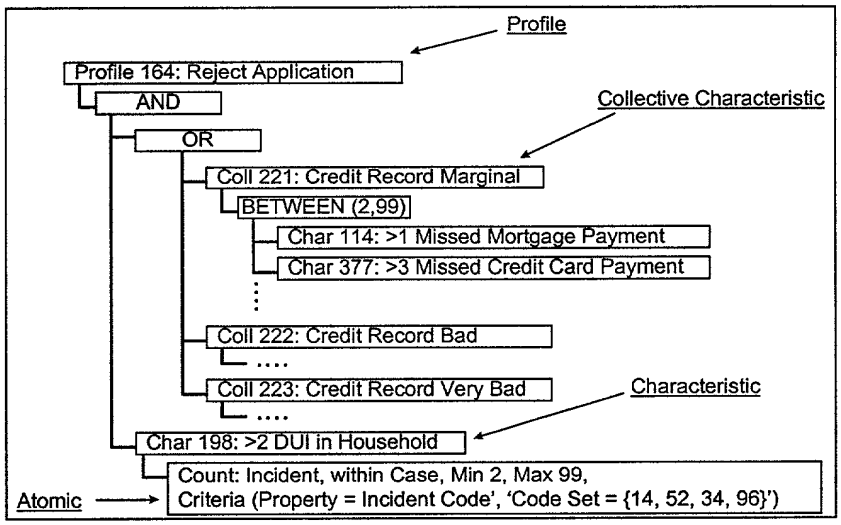


FIGURE 9

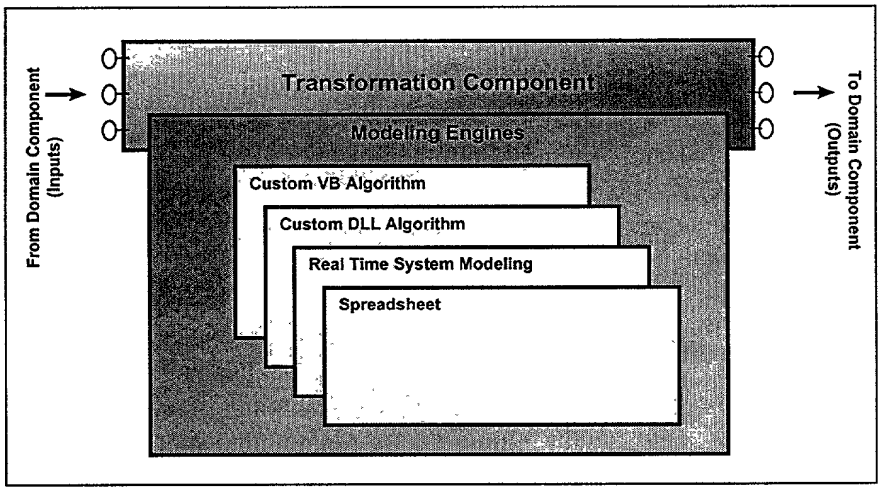


FIGURE 10

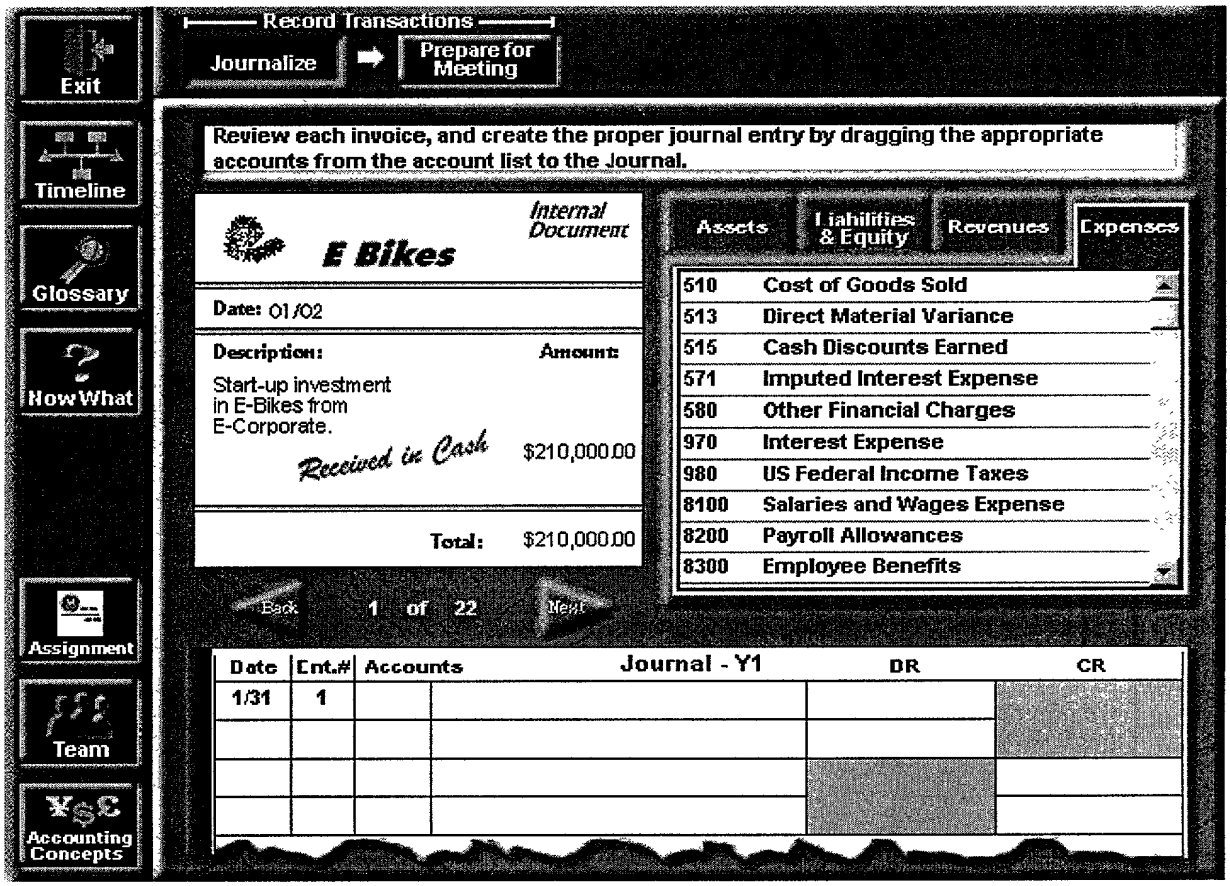

Exit
Timeline
Glossary
How What
Assignment
Team
Accounting Concepts
Record Transactions
Journalize
Prepare for Meeting
Review each invoice, and create the proper journal entry by dragging the appropriate accounts from the account list to the Journal.
Internal Document
E Bikes
Date: 01/02
Description:
Amount:
Start-up investment in E-Bikes from E-Corporate.
Received in Cash
$210,000.00
Total:
$210,000.00
Back
1 of 22
Next
Assets
Liabilities & Equity
Revenues
Expenses
510 Cost of Goods Sold
513 Direct Material Variance
515 Cash Discounts Earned
571 Imputed Interest Expense
580 Other Financial Charges
970 Interest Expense
980 US Federal Income Taxes
8100 Salaries and Wages Expense
8200 Payroll Allowances
8300 Employee Benefits
Journal - Y1
Date
Ent.#
Accounts
DR
CR
1/31
1

FIGURE 11

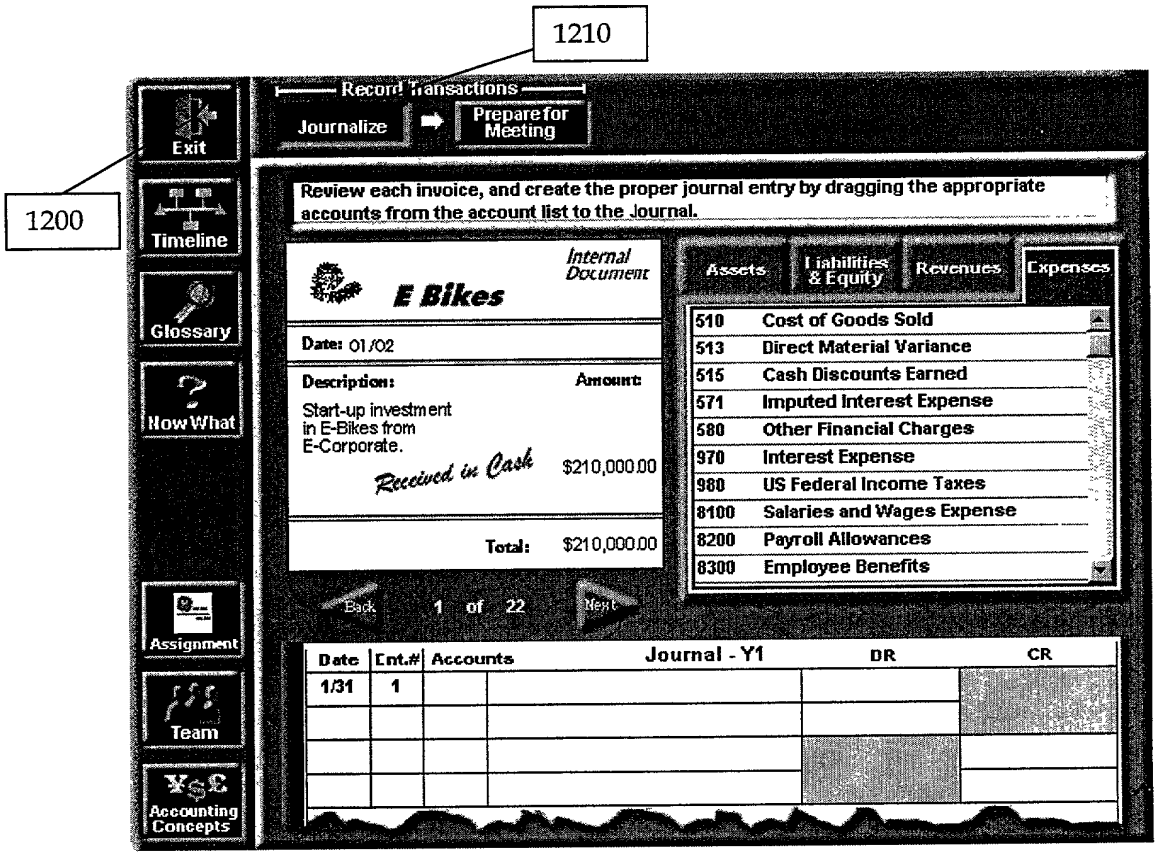

1210
1200
Record Transactions
Journalize
Prepare for Meeting
Exit
Timeline
Glossary
Now What
Assignment
Team
Accounting Concepts
Review each invoice, and create the proper journal entry by dragging the appropriate accounts from the account list to the Journal.
Internal Document
E Bikes
Date: 01/02
Description:
Amount:
Start-up investment in E-Bikes from E-Corporate.
Received in Cash
$210,000.00
Total:
$210,000.00
Back
1 of 22
Next
Assets
Liabilities & Equity
Revenues
Expenses
510 Cost of Goods Sold
513 Direct Material Variance
515 Cash Discounts Earned
571 Imputed Interest Expense
580 Other Financial Charges
970 Interest Expense
980 US Federal Income Taxes
8100 Salaries and Wages Expense
8200 Payroll Allowances
8300 Employee Benefits
Date
Ent.#
Accounts
Journal - Y1
DR
CR
1/31
1

Figure 12

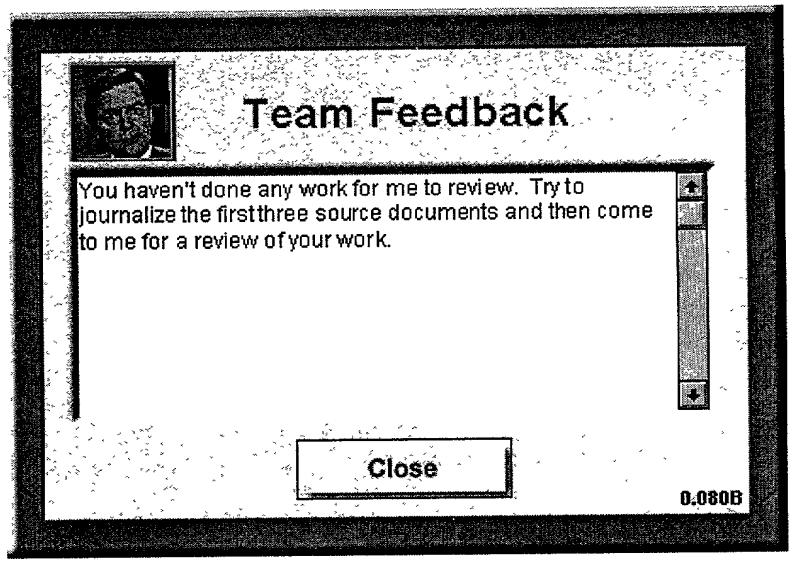

Team Feedback
You haven't done any work for me to review. Try to journalize the first three source documents and then come to me for a review of your work.
Close
0.080B

Figure 13

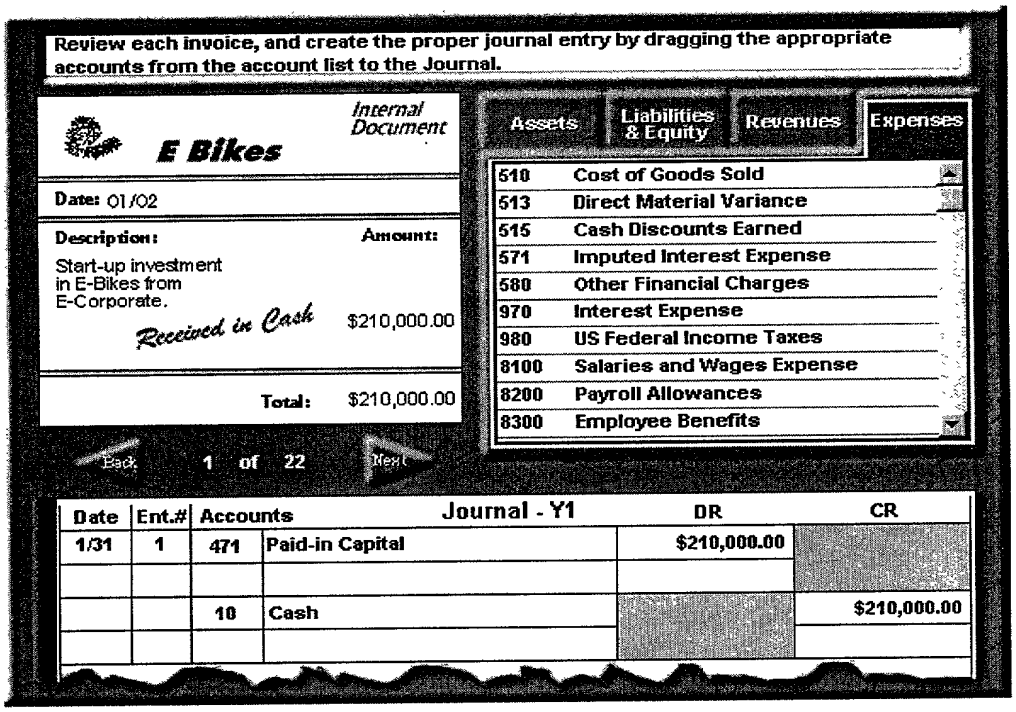

Review each invoice, and create the proper journal entry by dragging the appropriate accounts from the account list to the Journal.
E Bikes
Internal Document
Date: 01/02
Description:
Amount:
Start-up investment in E-Bikes from E-Corporate.
Received in Cash
$210,000.00
Total:
$210,000.00
Back
1 of 22
Next
Assets
Liabilities & Equity
Revenues
Expenses
510 Cost of Goods Sold
513 Direct Material Variance
515 Cash Discounts Earned
571 Imputed Interest Expense
580 Other Financial Charges
970 Interest Expense
980 US Federal Income Taxes
8100 Salaries and Wages Expense
8200 Payroll Allowances
8300 Employee Benefits
Journal - Y1
Date
Ent.#
Accounts
DR
CR
1/31
1
471
Paid-in Capital
$210,000.00
10
Cash
$210,000.00

Figure 14

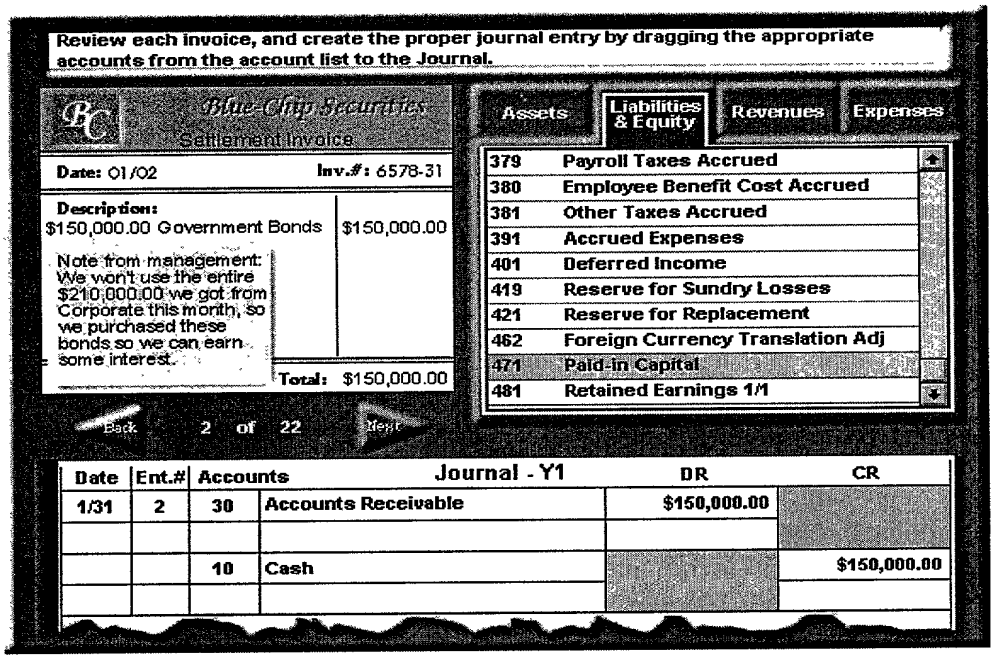

Review each invoice, and create the proper journal entry by dragging the appropriate accounts from the account list to the Journal.
Blue Chip Securities
Settlement Invoice
Date: 01/02
Inv.#: 6578-31
Description:
$150,000.00 Government Bonds
$150,000.00
Note from management: We won't use the entire $210,000.00 we got from Corporate this month, so we purchased these bonds so we can earn some interest.
Total: $150,000.00
Back
2 of 22
Next
Assets
Liabilities & Equity
Revenues
Expenses
379 Payroll Taxes Accrued
380 Employee Benefit Cost Accrued
381 Other Taxes Accrued
391 Accrued Expenses
401 Deferred Income
419 Reserve for Sundry Losses
421 Reserve for Replacement
462 Foreign Currency Translation Adj
471 Paid-in Capital
481 Retained Earnings 1/1
Journal - Y1
Date | Ent.# | Accounts | DR | CR
1/31 | 2 | 30 Accounts Receivable | $150,000.00
10 Cash | $150,000.00

Figure 15

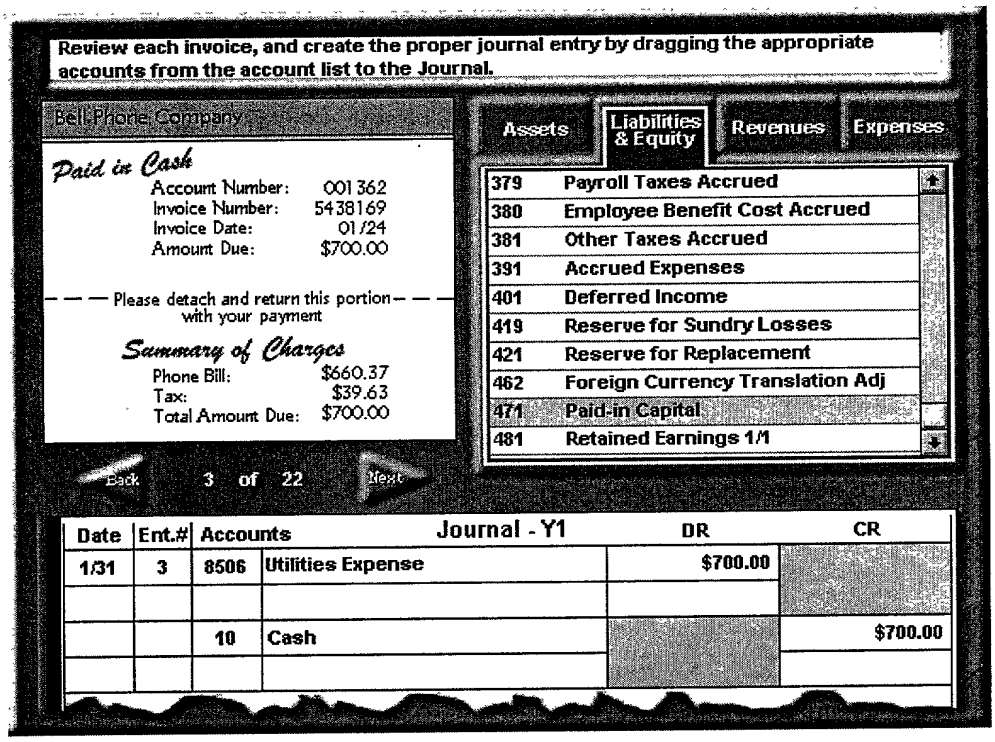


Figure 16

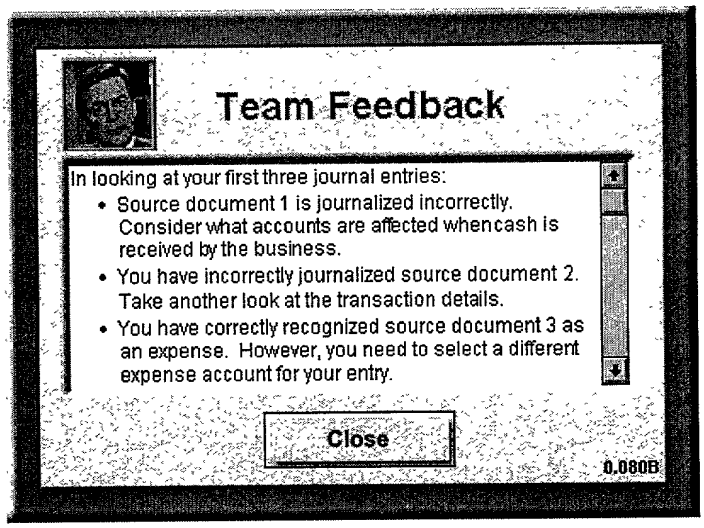


Figure 17

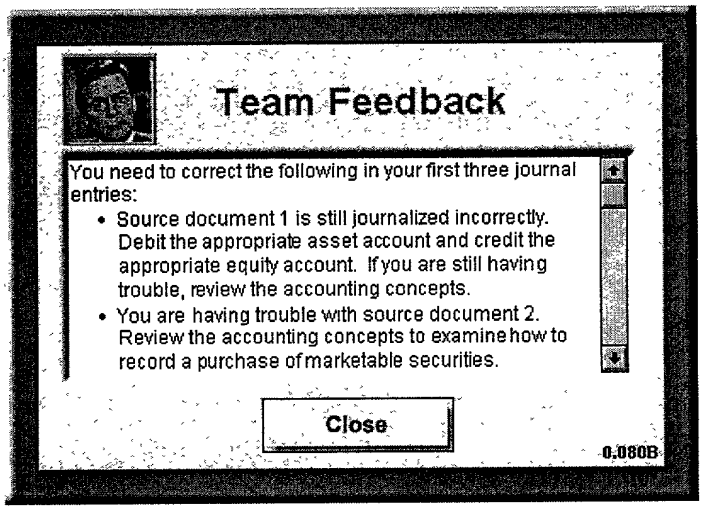


Figure 18

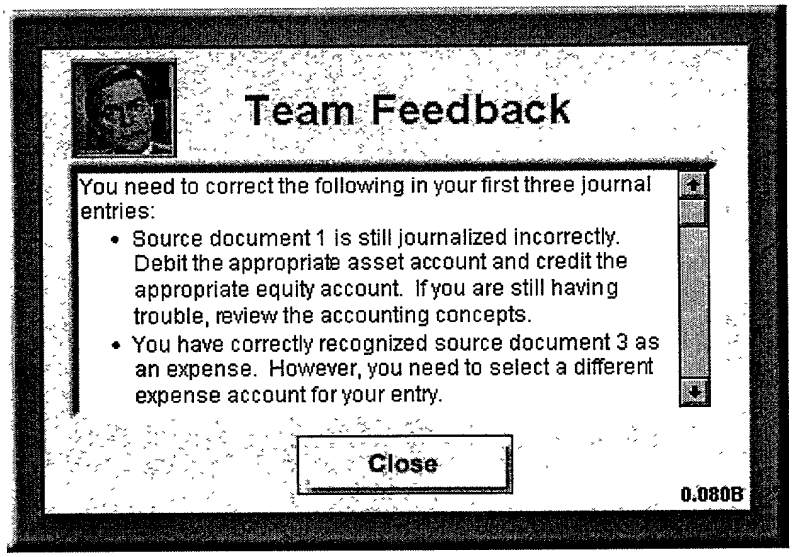


Figure 19

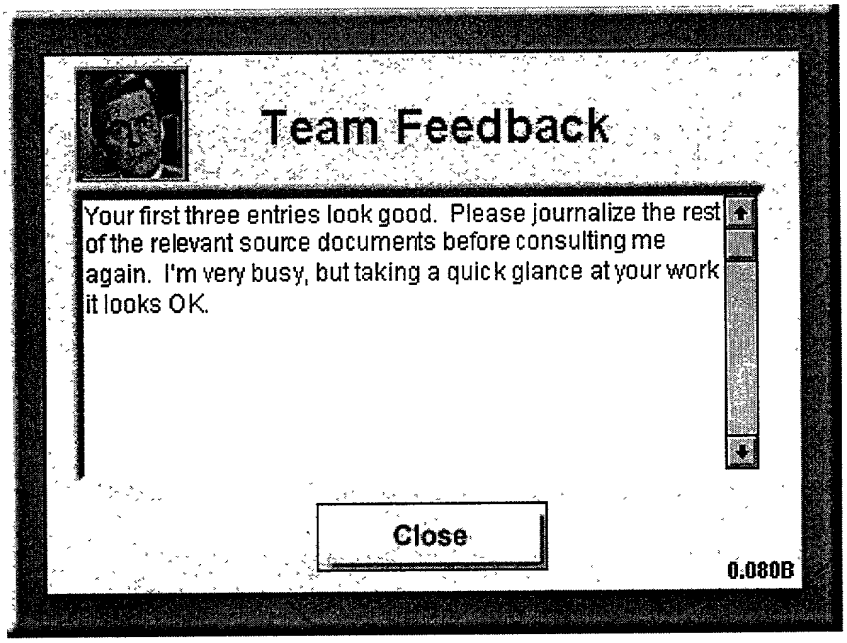


Figure 20

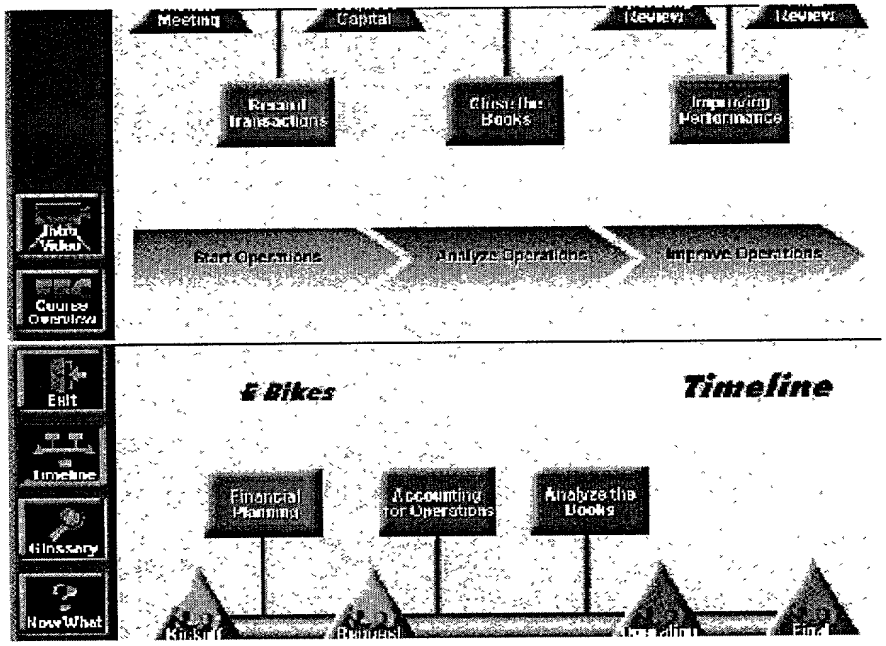


Figure 21

Attorney Docket No. 95-1-0002

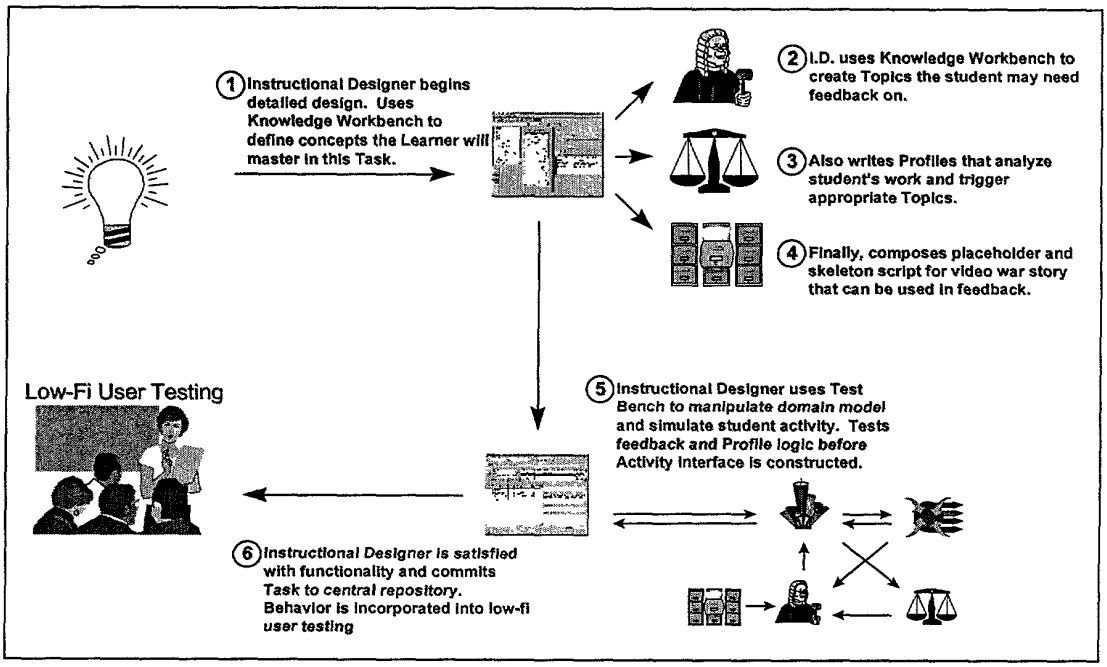


FIGURE 22

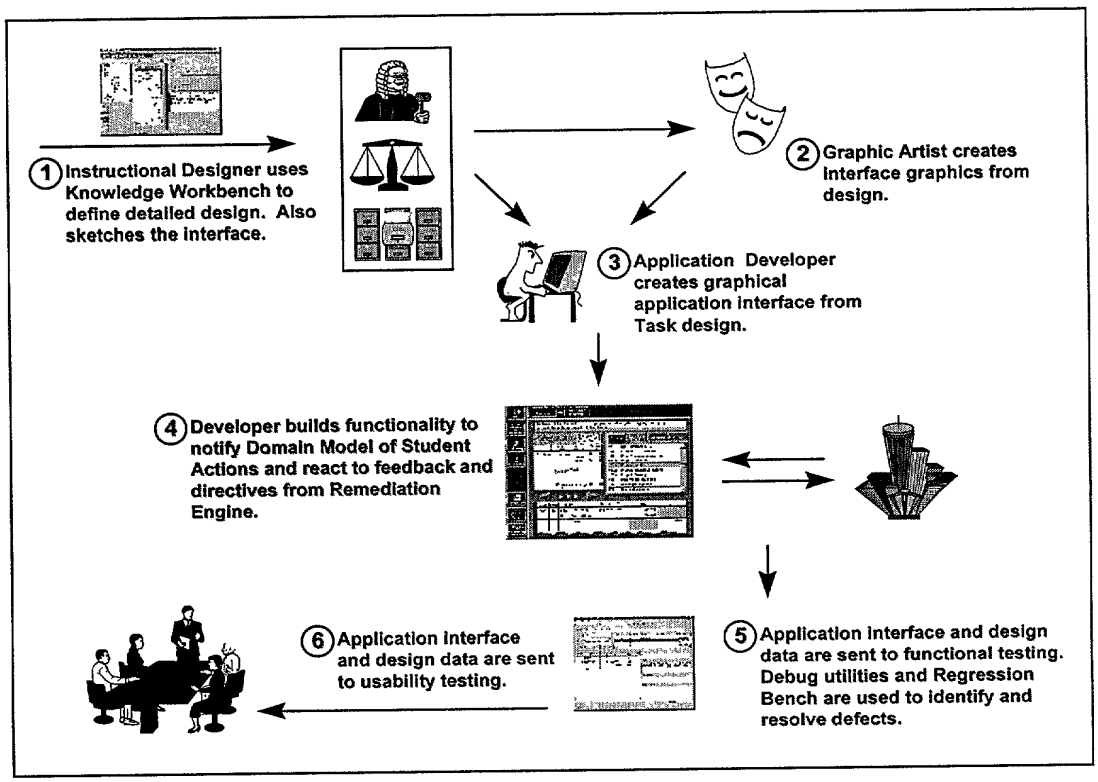

1 Instructional Designer uses Knowledge Workbench to define detailed design. Also sketches the interface.
2 Graphic Artist creates interface graphics from design.
3 Application Developer creates graphical application interface from Task design.
4 Developer builds functionality to notify Domain Model of Student Actions and react to feedback and directives from Remediation Engine.
5 Application interface and design data are sent to functional testing. Debug utilities and Regression Bench are used to identify and resolve defects.
6 Application interface and design data are sent to usability testing.

FIGURE 23

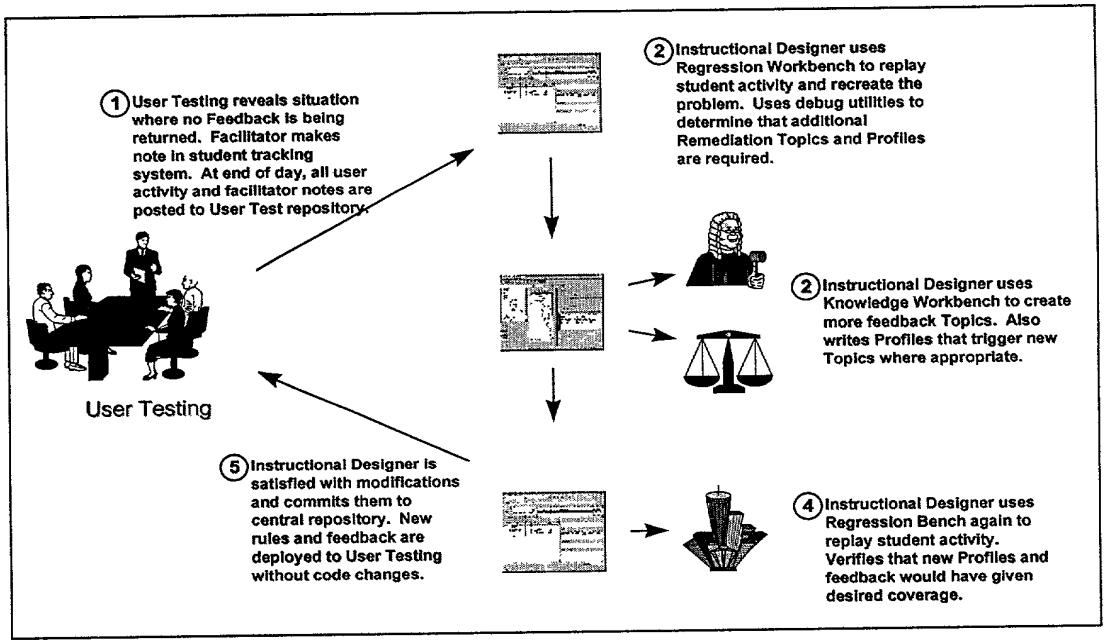

1 User Testing reveals situation where no Feedback is being returned. Facilitator makes note in student tracking system. At end of day, all user activity and facilitator notes are posted to User Test repository.
User Testing
2 Instructional Designer uses Regression Workbench to replay student activity and recreate the problem. Uses debug utilities to determine that additional Remediation Topics and Profiles are required.
2 Instructional Designer uses Knowledge Workbench to create more feedback Topics. Also writes Profiles that trigger new Topics where appropriate.
4 Instructional Designer uses Regression Bench again to replay student activity. Verifies that new Profiles and feedback would have given desired coverage.
5 Instructional Designer is satisfied with modifications and commits them to central repository. New rules and feedback are deployed to User Testing without code changes.

FIGURE 24

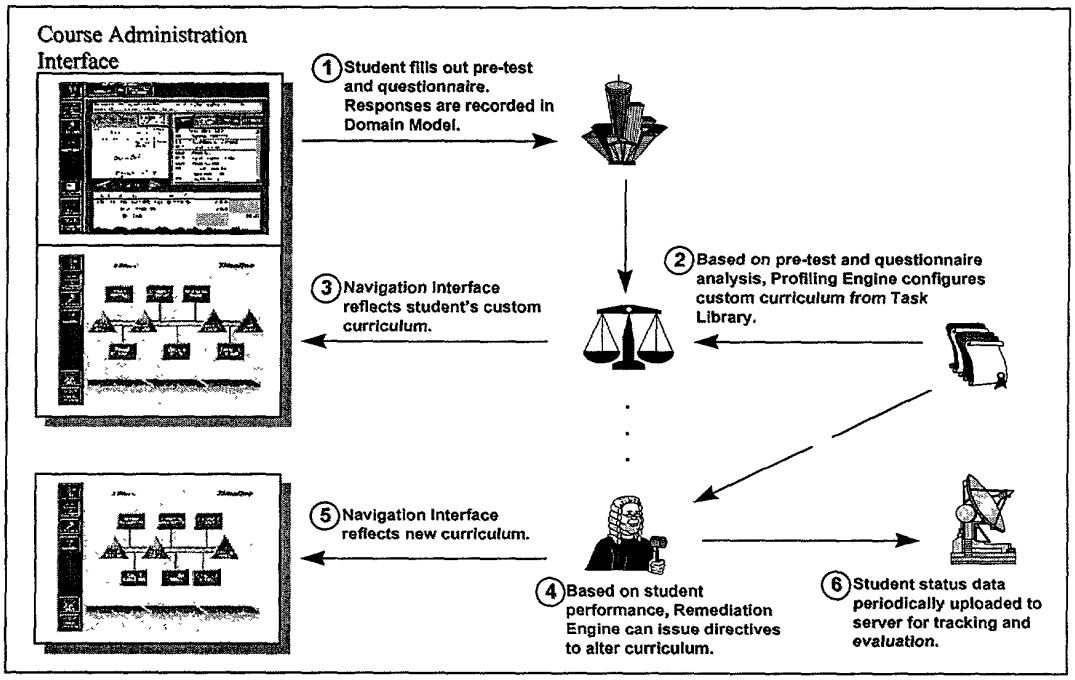

Course Administration Interface
1 Student fills out pre-test and questionnaire. Responses are recorded in Domain Model.
2 Based on pre-test and questionnaire analysis, Profiling Engine configures custom curriculum from Task Library.
3 Navigation Interface reflects student's custom curriculum.
4 Based on student performance, Remediation Engine can issue directives to alter curriculum.
5 Navigation Interface reflects new curriculum.
6 Student status data periodically uploaded to server for tracking and evaluation.

FIGURE 25

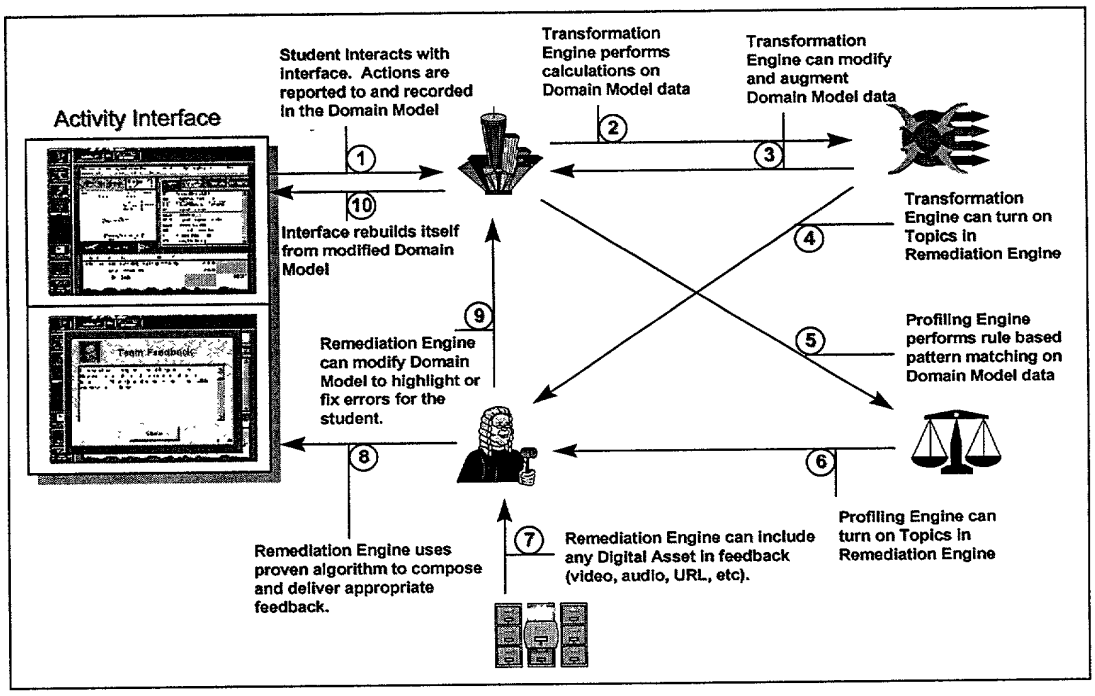

Activity Interface
Student Interacts with interface. Actions are reported to and recorded in the Domain Model
Transformation Engine performs calculations on Domain Model data
Transformation Engine can modify and augment Domain Model data
Interface rebuilds itself from modified Domain Model
Transformation Engine can turn on Topics in Remediation Engine
Profiling Engine performs rule based pattern matching on Domain Model data
Remediation Engine can modify Domain Model to highlight or fix errors for the student.
Profiling Engine can turn on Topics in Remediation Engine
Remediation Engine uses proven algorithm to compose and deliver appropriate feedback.
Remediation Engine can include any Digital Asset in feedback (video, audio, URL, etc).
1
2
3
4
5
6
7
8
9
10

FIGURE 26

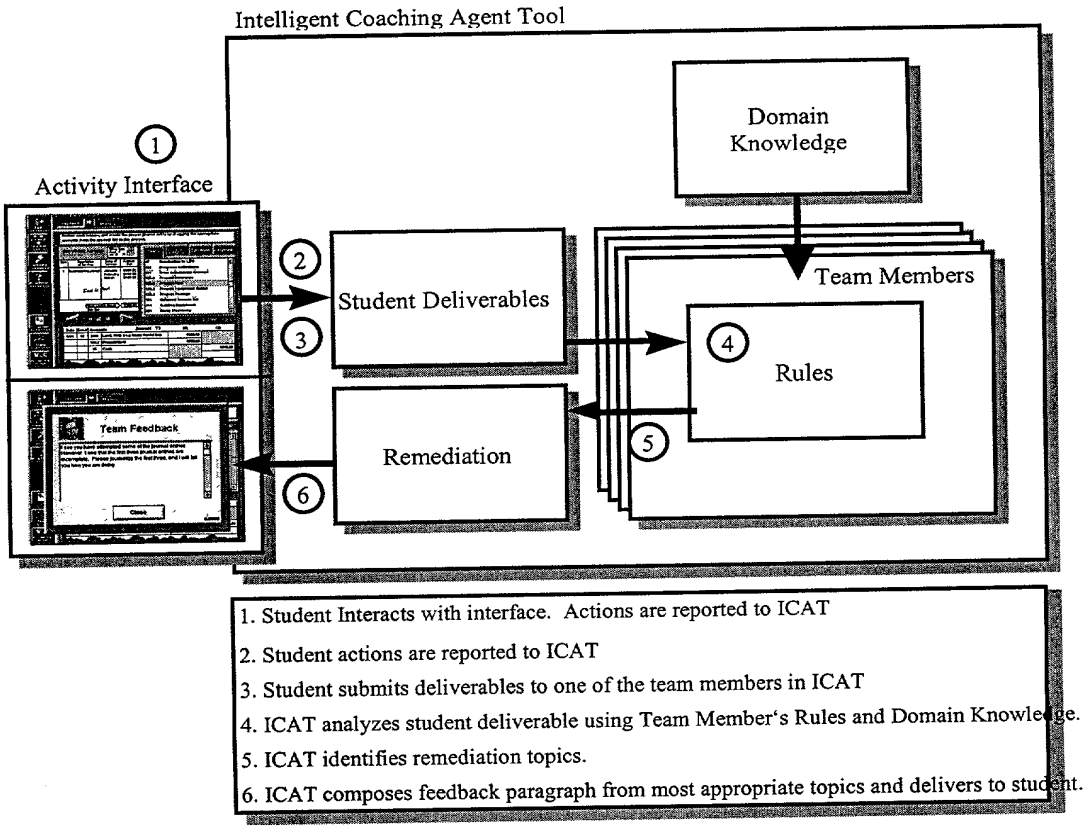

Intelligent Coaching Agent Tool
1
Activity Interface
Domain Knowledge
2
Student Deliverables
3
Team Members
4
Rules
5
Remediation
6
Team Feedback
1. Student Interacts with interface. Actions are reported to ICAT
2. Student actions are reported to ICAT
3. Student submits deliverables to one of the team members in ICAT
4. ICAT analyzes student deliverable using Team Member's Rules and Domain Knowledge.
5. ICAT identifies remediation topics.
6. ICAT composes feedback paragraph from most appropriate topics and delivers to student.

FIGURE 27

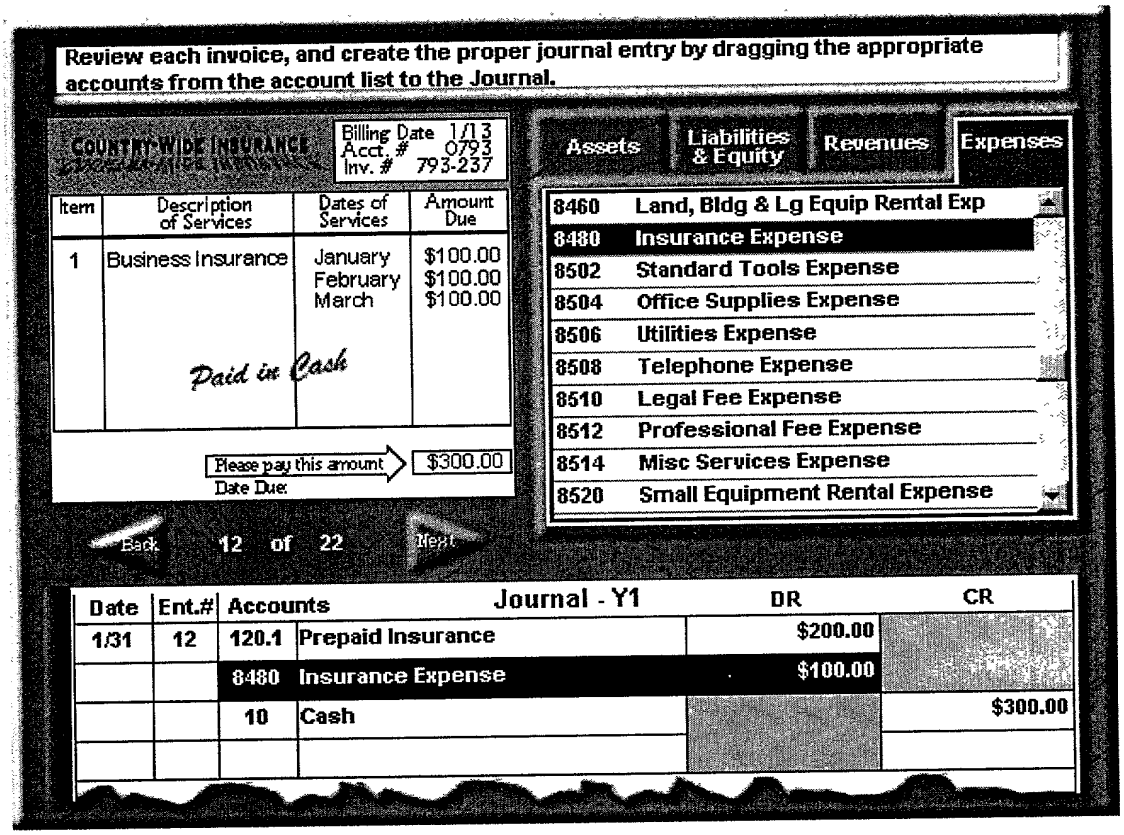

Review each invoice, and create the proper journal entry by dragging the appropriate accounts from the account list to the Journal.
COUNTRY-WIDE INSURANCE
Billing Date 1/13
Acct. # 0793
Inv. # 793-237
Item
Description of Services
Dates of Services
Amount Due
1
Business Insurance
January
February
March
$100.00
$100.00
$100.00
Paid in Cash
Please pay this amount
$300.00
Date Due:
Back
12 of 22
Next
Assets
Liabilities & Equity
Revenues
Expenses
8460 Land, Bldg & Lg Equip Rental Exp
8480 Insurance Expense
8502 Standard Tools Expense
8504 Office Supplies Expense
8506 Utilities Expense
8508 Telephone Expense
8510 Legal Fee Expense
8512 Professional Fee Expense
8514 Misc Services Expense
8520 Small Equipment Rental Expense
Journal - Y1
Date
Ent.#
Accounts
DR
CR
1/31
12
120.1 Prepaid Insurance
$200.00
8480 Insurance Expense
$100.00
10 Cash
$300.00

FIGURE 28

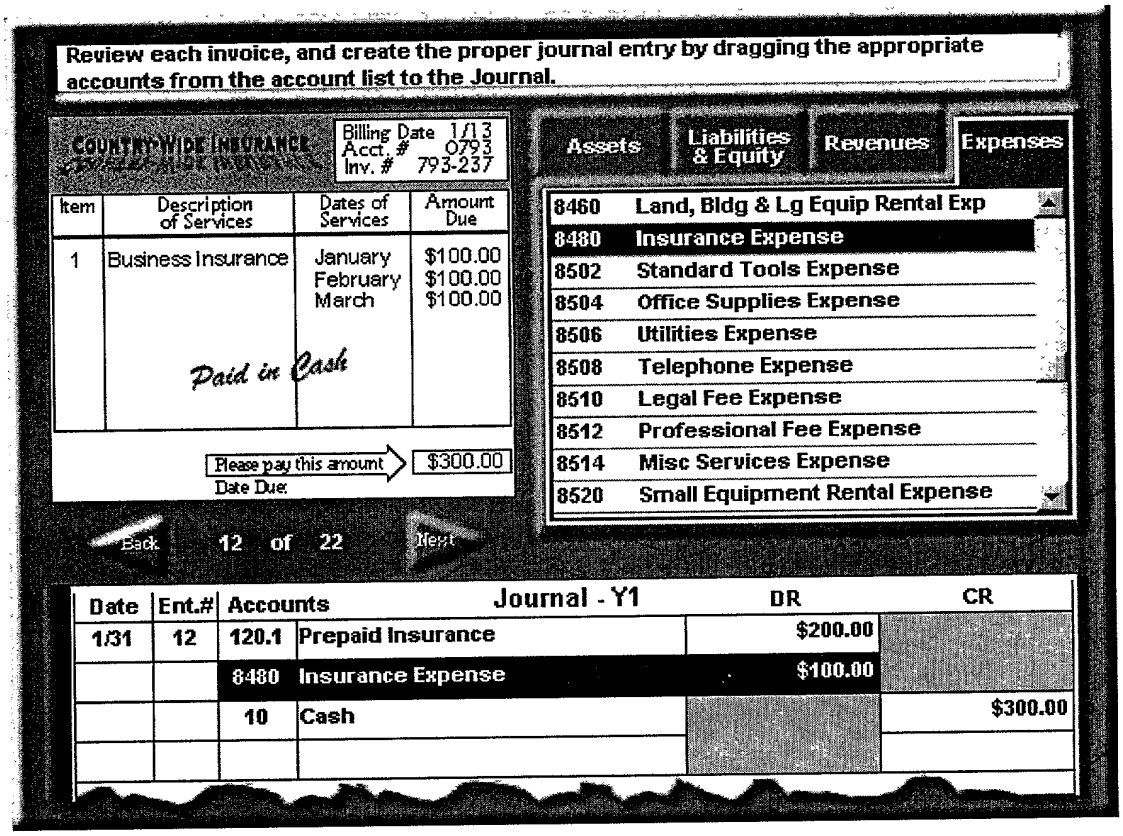


FIGURE 29

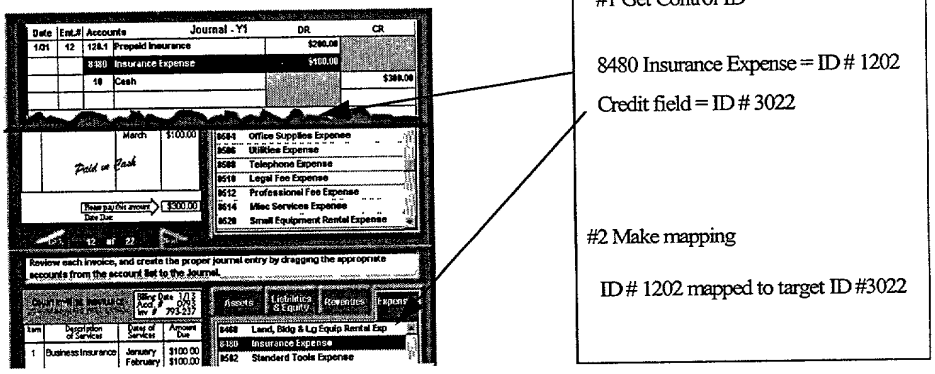


FIGURE 30

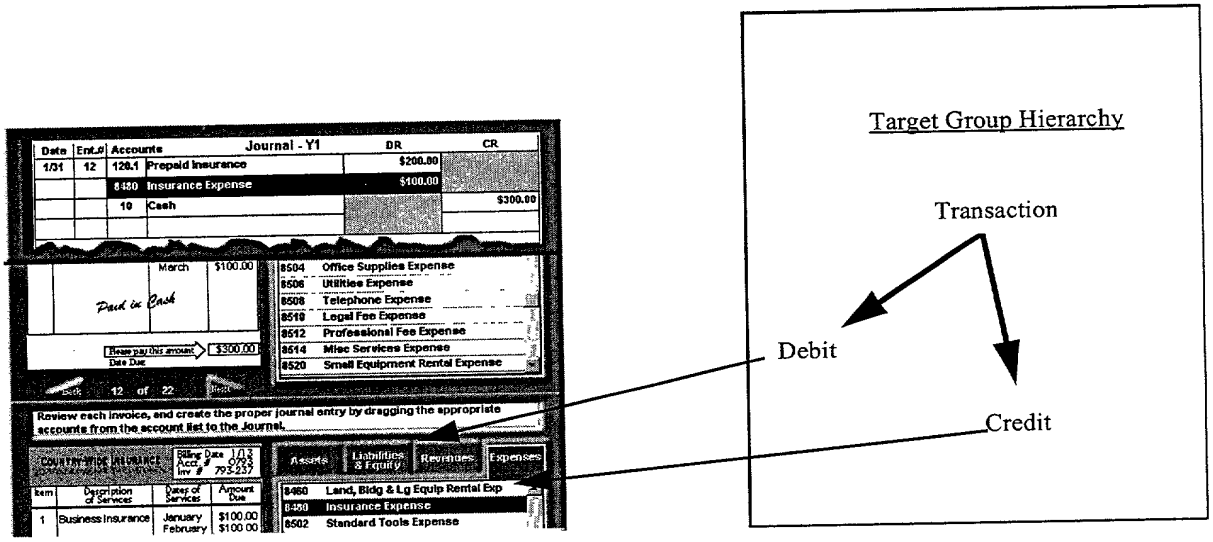


FIGURE 31

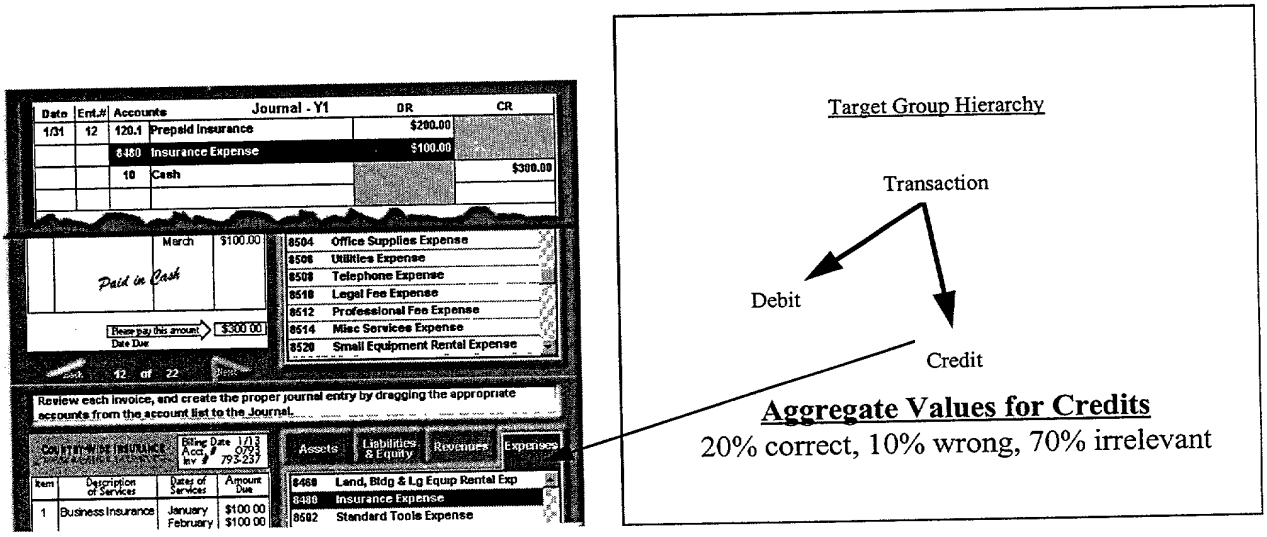


FIGURE 32

Proposed - Patented

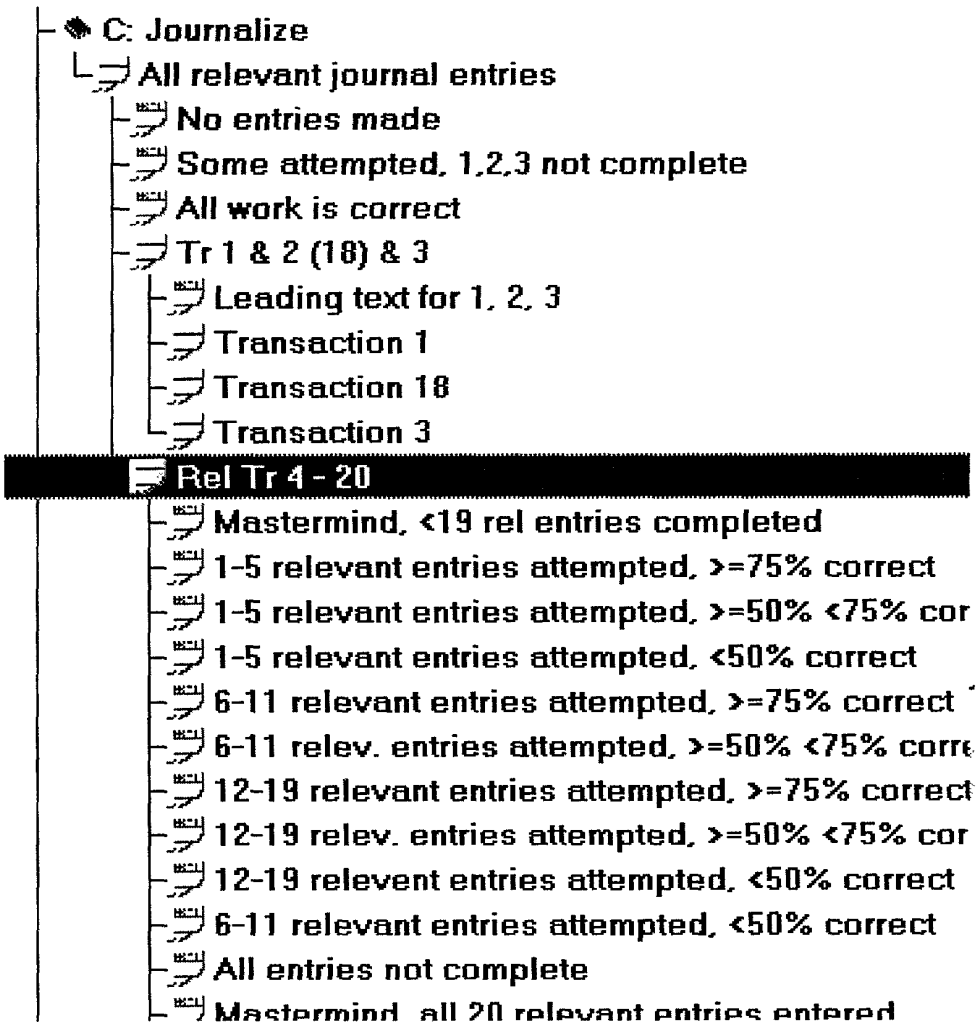


FIGURE 33

Patent Application Publication

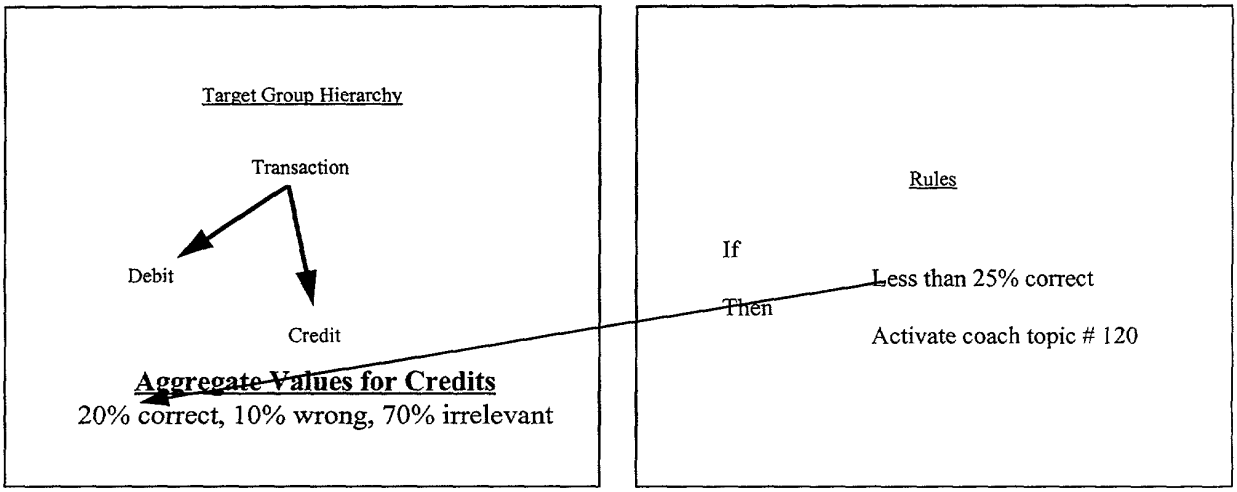


FIGURE 34

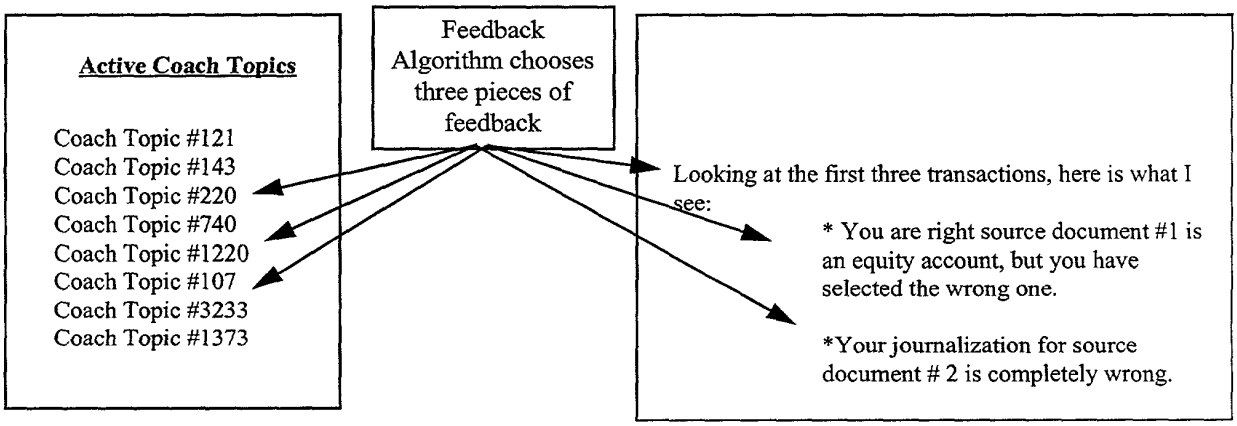


FIGURE 35

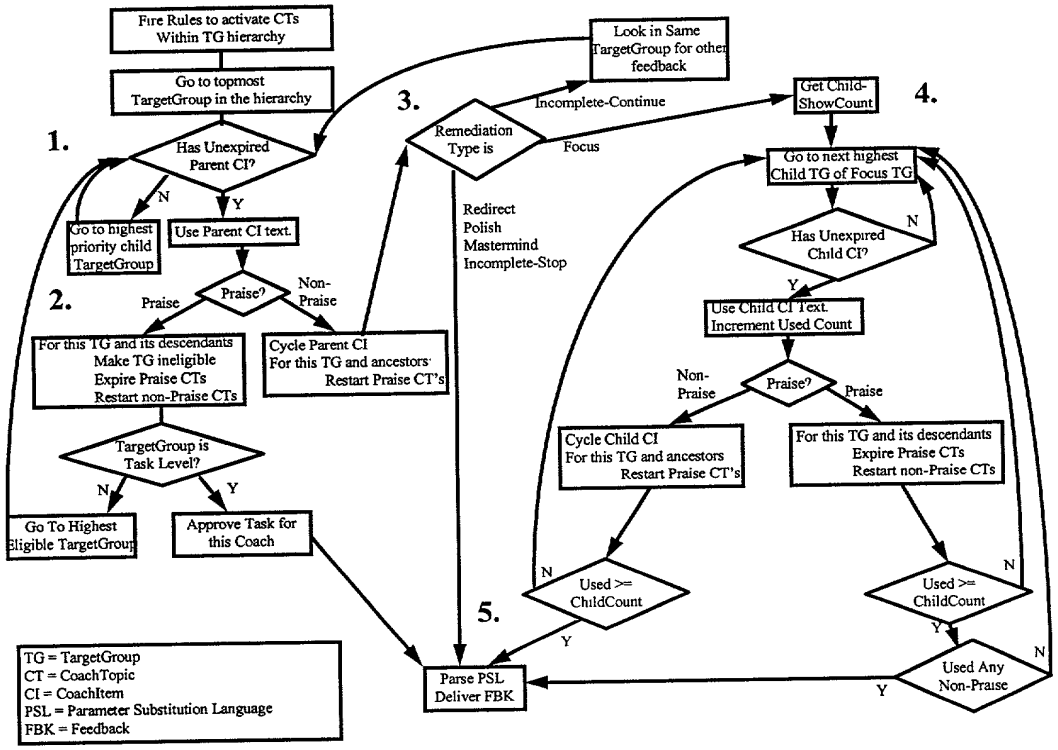

Fire Rules to activate CTs Within TG hierarchy
Go to topmost TargetGroup in the hierarchy
1.
Has Unexpired Parent CI?
N
Y
Go to highest priority child TargetGroup
Use Parent CI text.
2.
Praise?
Praise
Non-Praise
For this TG and its descendants Make TG ineligible Expire Praise CTs Restart non-Praise CTs
Cycle Parent CI For this TG and ancestors Restart Praise CT's
TargetGroup is Task Level?
N
Y
Go To Highest Eligible TargetGroup
Approve Task for this Coach
3.
Look in Same TargetGroup for other feedback
Remediation Type is
Incomplete-Continue
Focus
Redirect
Polish
Mastermind
Incomplete-Stop
4.
Get Child-ShowCount
Go to next highest Child TG of Focus TG
Has Unexpired Child CI?
N
Y
Use Child CI Text. Increment Used Count
Praise?
Non-Praise
Praise
Cycle Child CI For this TG and ancestors Restart Praise CT's
For this TG and its descendants Expire Praise CTs Restart non-Praise CTs
Used >= ChildCount
N
Y
5.
Used Any Non-Praise
N
Y
Parse PSL Deliver FBK
TG = TargetGroup
CT = CoachTopic
CI = CoachItem
PSL = Parameter Substitution Language
FBK = Feedback

FIGURE 36

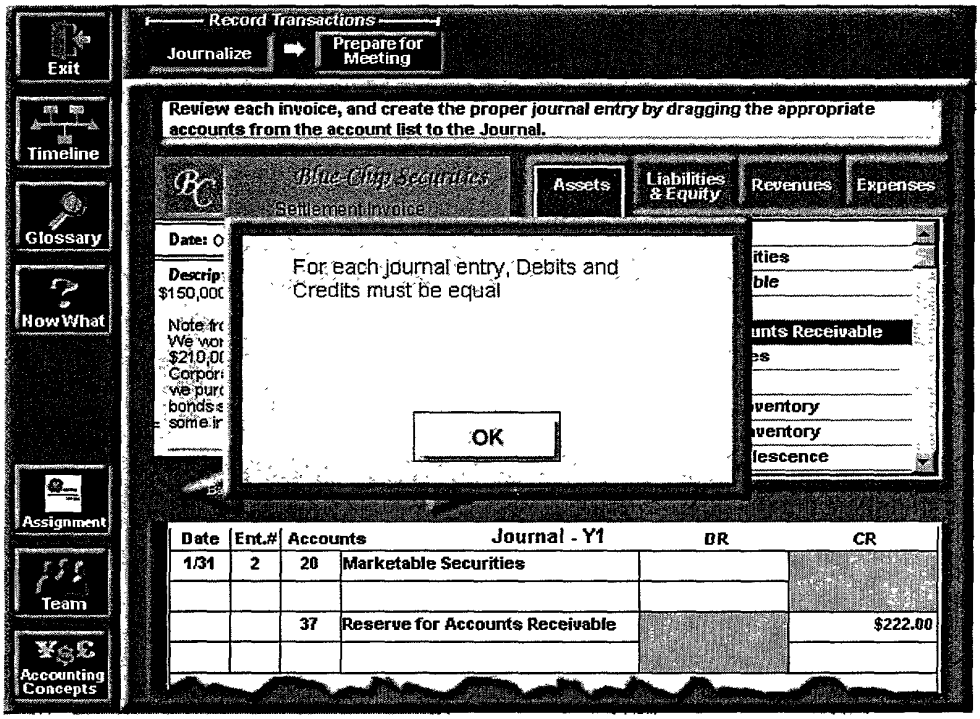


FIGURE 37

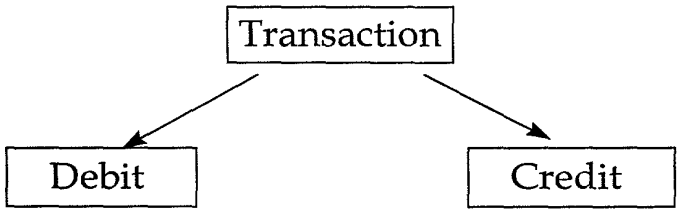


FIGURE 38

Target group priority #1B
Target group #1A
Target group priority #1C
Target group priority #2C
Target group priority #2B

FIGURE 39

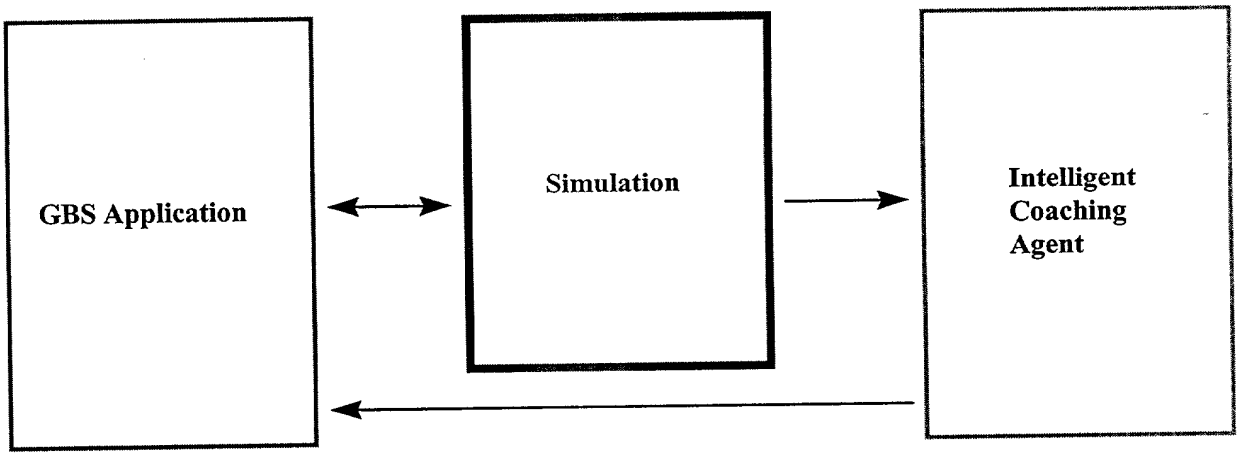


FIGURE 40

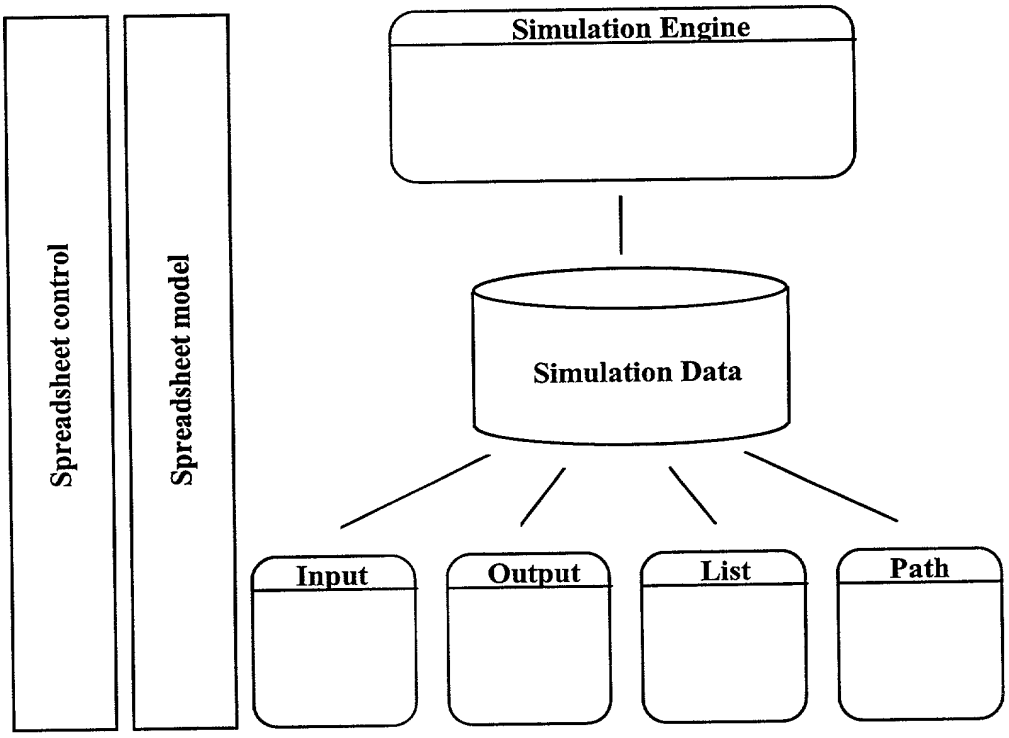


FIGURE 41

Distinct_Input		9999	
	A	B	C	D
1	*Question 1*			
2		1 + 1 =	9999	
3				

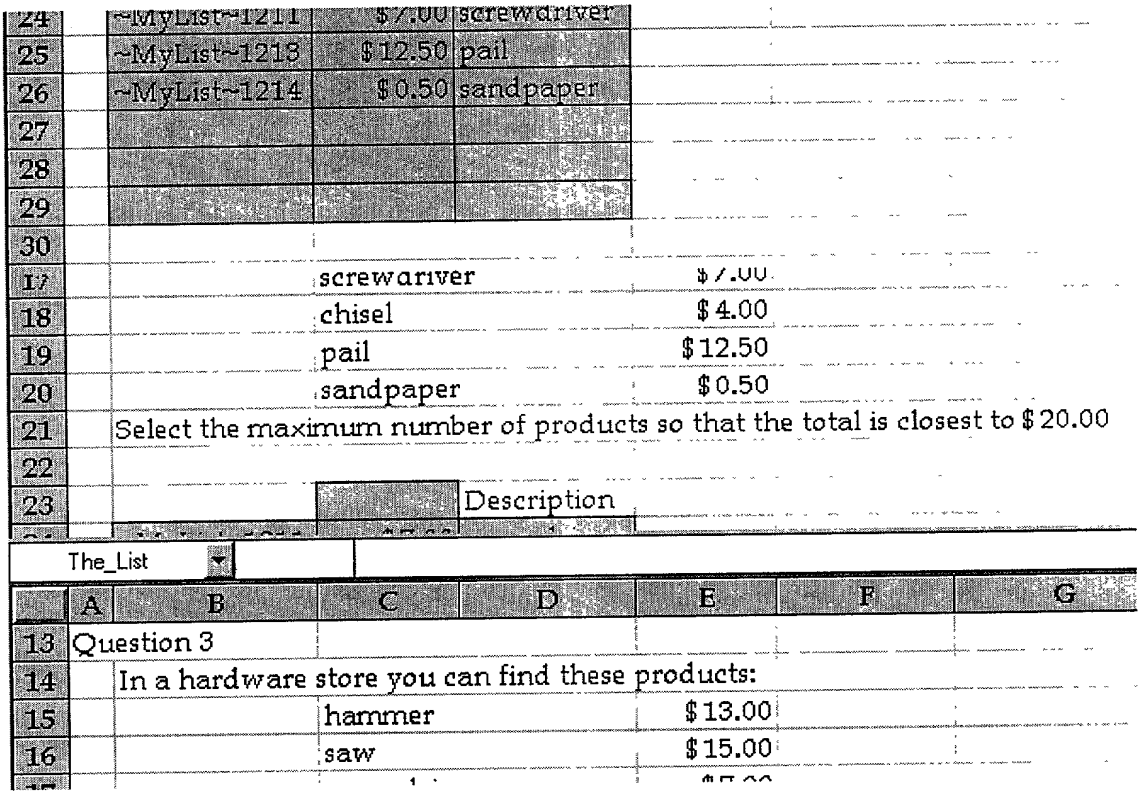
FIGURE 42

DragDrop_In...		0	
	A	B	C	D
4	*Question 2*			
5		What's the result of 4 + 2 ?		
6		a) 2		
7		b) 8		
8		c) 6		
9		d) None of the above		
10				
11		1204	0	
12				

FIGURE 43

	1			
1.1	1.2	1.3	...	1.n
2.1	2.2	2.3	...	2.n
.	.	.		.
.	.	.		.
.	.	.		.
n.1	n.2	n.3	...	n.n

FIGURE 44

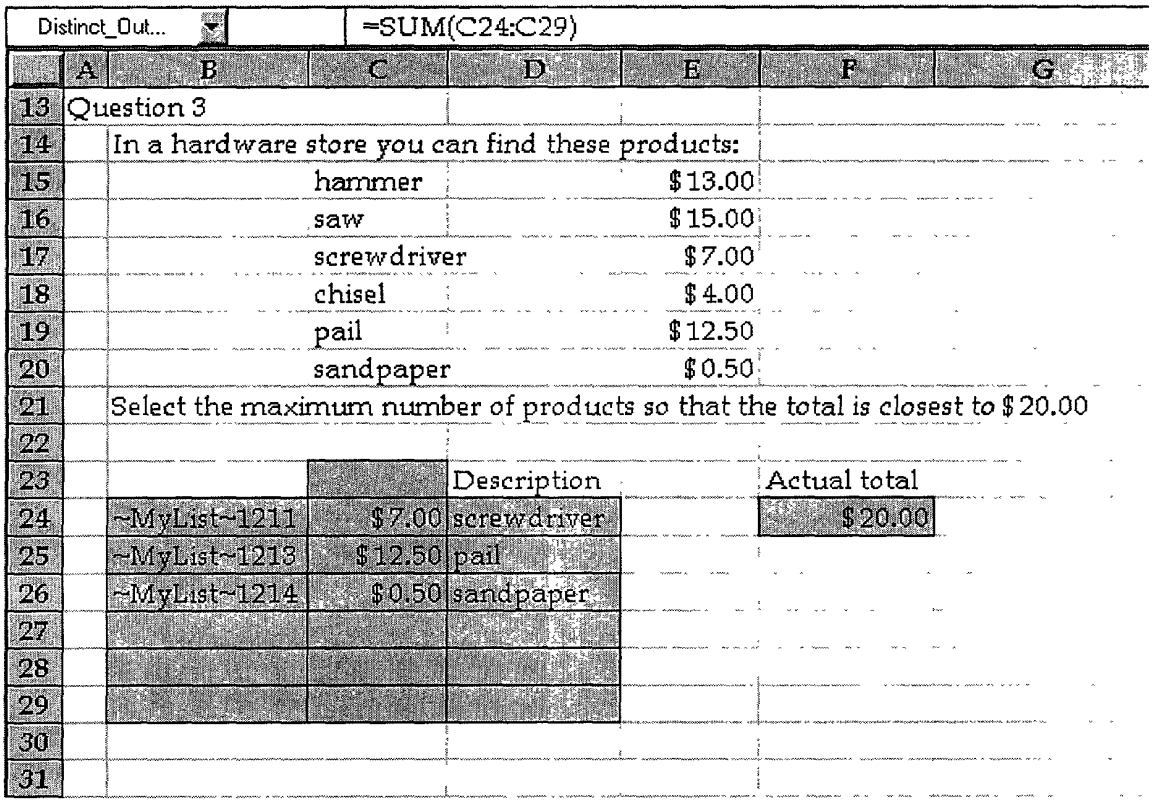


24	~MyList~1211	$7.00	screwdriver
25	~MyList~1218	$12.50	pail
26	~MyList~1214	$0.50	sandpaper
27			
28			
29			
30			
17		screwdriver	$7.00
18		chisel	$4.00
19		pail	$12.50
20		sandpaper	$0.50
21	Select the maximum number of products so that the total is closest to $20.00		
22			
23			Description

The_List

	A	B	C	D	E	F	G
13	Question 3						
14		In a hardware store you can find these products:					
15			hammer		$13.00		
16			saw		$15.00		

FIGURE 45



Distinct_Out... =SUM(C24:C29)

	A	B	C	D	E	F	G
13	Question 3						
14		In a hardware store you can find these products:					
15			hammer	$13.00			
16			saw	$15.00			
17			screwdriver	$7.00			
18			chisel	$4.00			
19			pail	$12.50			
20			sandpaper	$0.50			
21		Select the maximum number of products so that the total is closest to $20.00					
22							
23				Description		Actual total	
24		~MyList~1211	$7.00	screwdriver		$20.00	
25		~MyList~1213	$12.50	pail			
26		~MyList~1214	$0.50	sandpaper			
27							
28							
29							
30							
31							

FIGURE 46

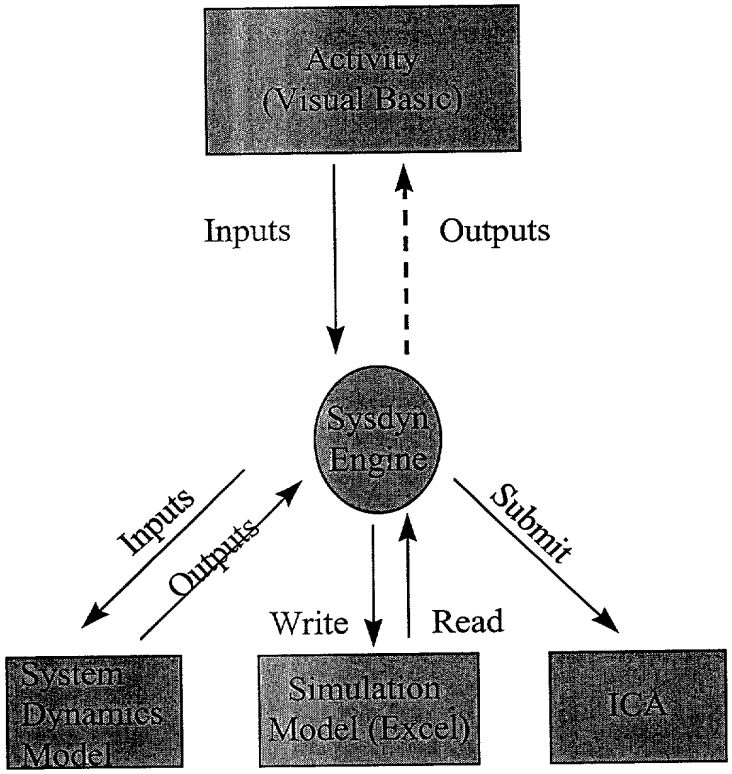

Activity
(Visual Basic)
Inputs
Outputs
Sysdyn
Engine
Inputs
Outputs
Submit
Write
Read
System
Dynamics
Model
Simulation
Model (Excel)
ICA

FIGURE 47

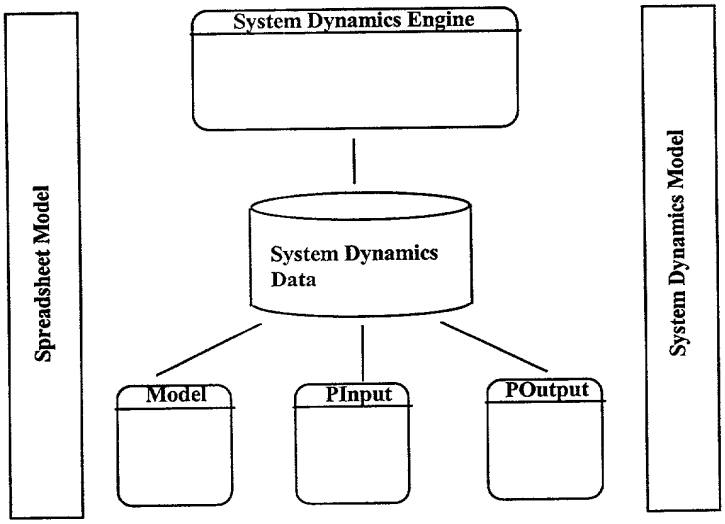

Spreadsheet Model
System Dynamics Engine
System Dynamics Data
Model
PInput
POutput
System Dynamics Model

FIGURE 48

Patent Application Publication

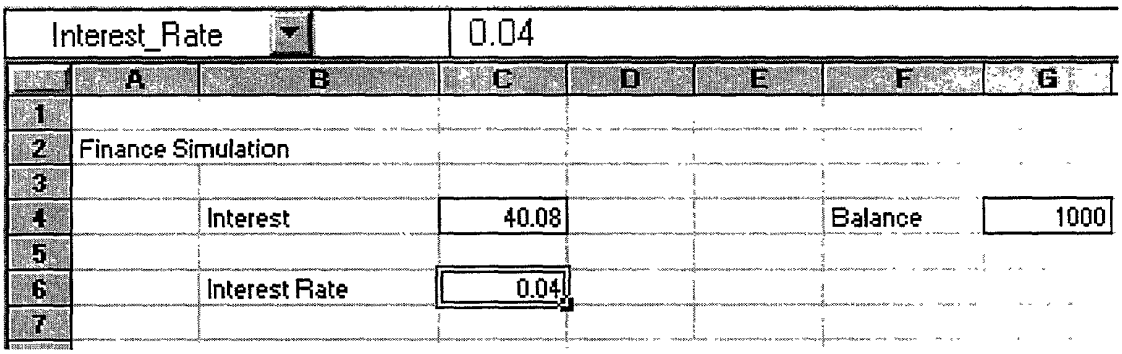


FIGURE 49

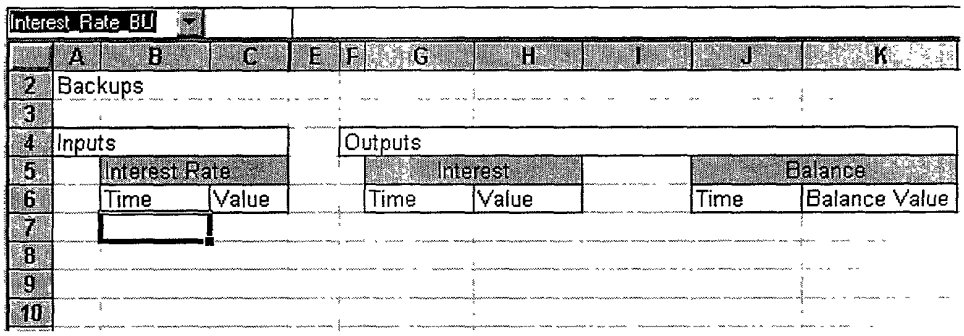


FIGURE 50

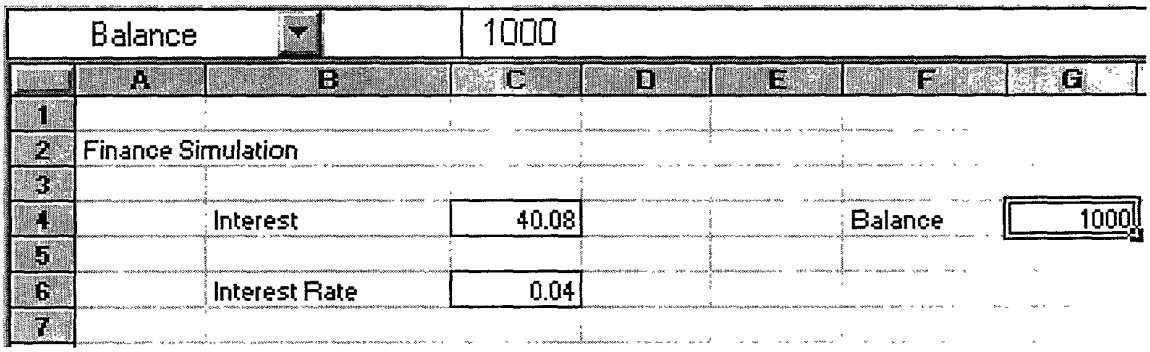


FIGURE 51

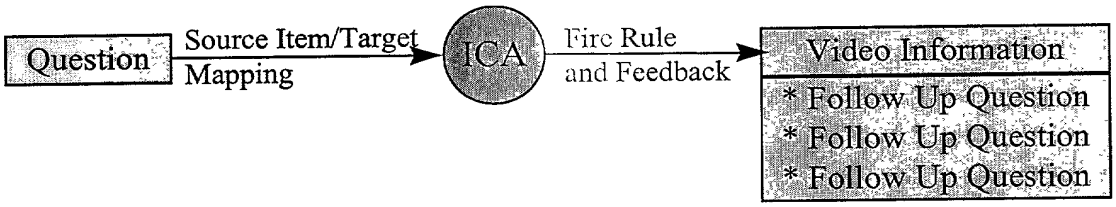


FIGURE 52

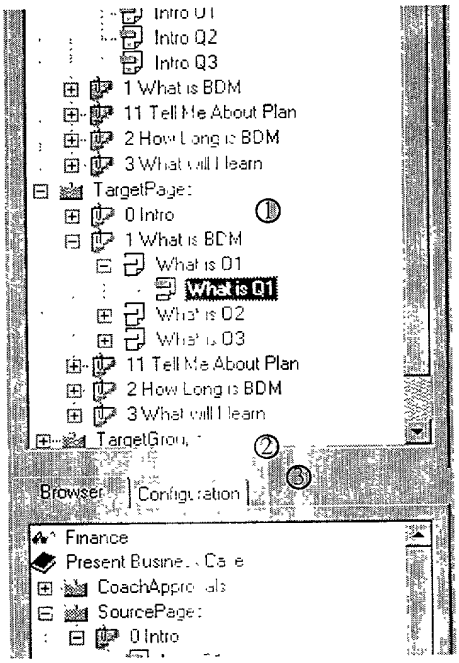


FIGURE 53

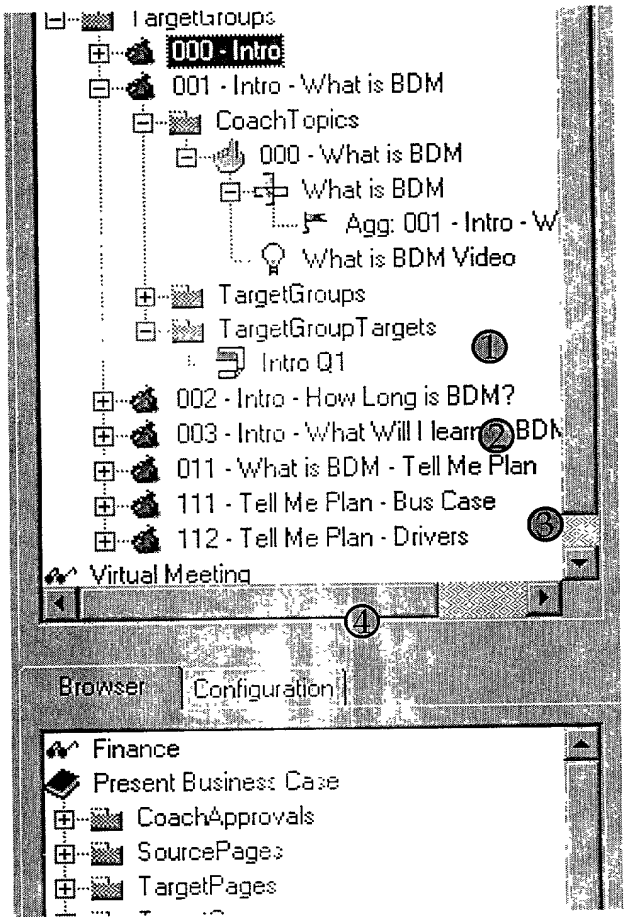

TargetGroups
000 - Intro
001 - Intro - What is BDM
CoachTopics
000 - What is BDM
What is BDM
Agg: 001 - Intro - W
What is BDM Video
TargetGroups
TargetGroupTargets
Intro Q1
002 - Intro - How Long is BDM?
003 - Intro - What Will I learn BDM
011 - What is BDM - Tell Me Plan
111 - Tell Me Plan - Bus Case
112 - Tell Me Plan - Drivers
Virtual Meeting
1
2
3
4
Browser
Configuration
Finance
Present Business Case
CoachApprovals
SourcePages
TargetPages

FIGURE 54

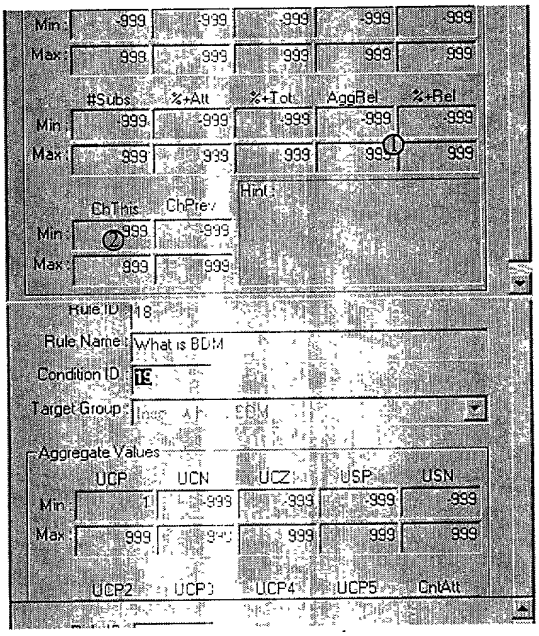


FIGURE 55

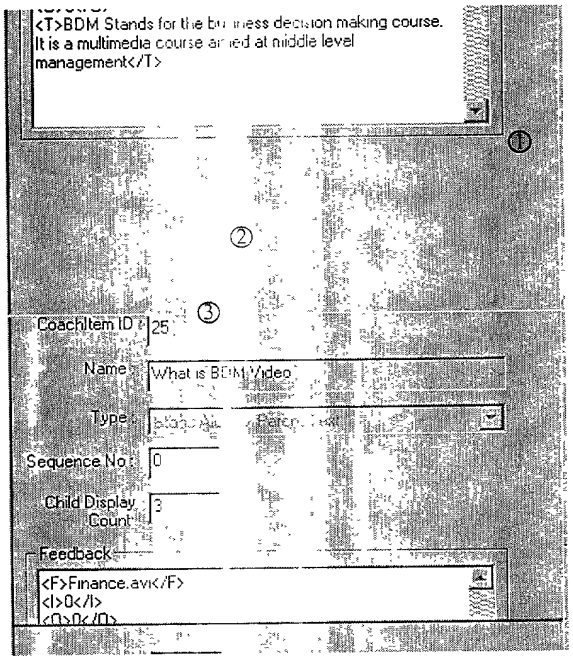


FIGURE 56

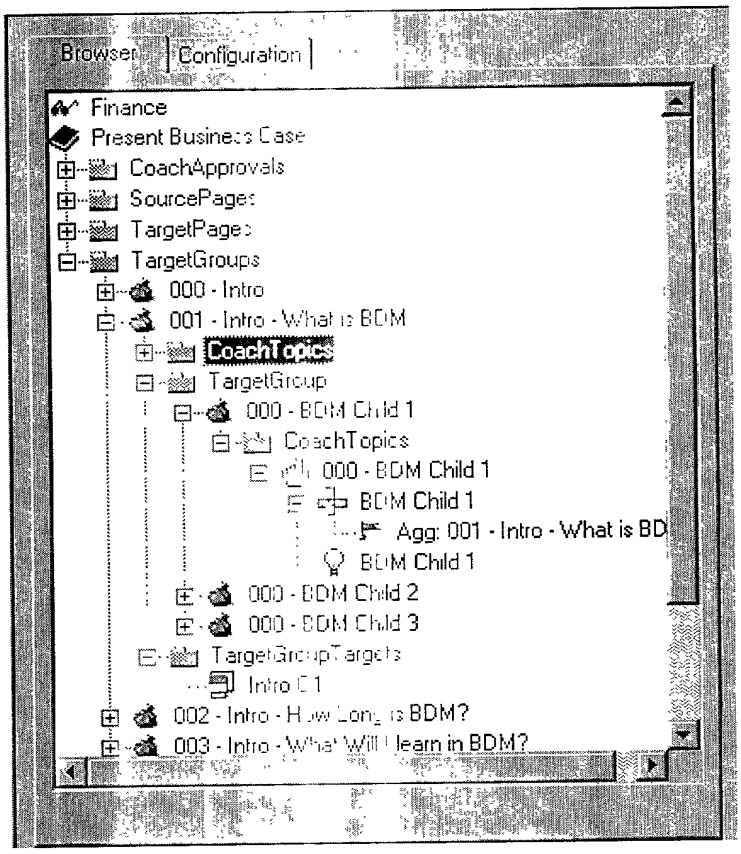

Browser
Configuration
Finance
Present Business Case
CoachApprovals
SourcePages
TargetPages
TargetGroups
000 - Intro
001 - Intro - What is BDM
CoachTopics
TargetGroup
000 - BDM Child 1
CoachTopics
000 - BDM Child 1
BDM Child 1
Agg: 001 - Intro - What is BD
BDM Child 1
000 - BDM Child 2
000 - BDM Child 3
TargetGroupTargets
Intro C1
002 - Intro - How Long is BDM?
003 - Intro - What Will I learn in BDM?

FIGURE 57

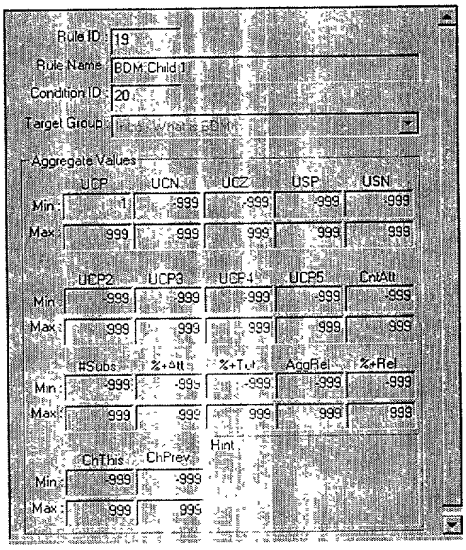


FIGURE 58

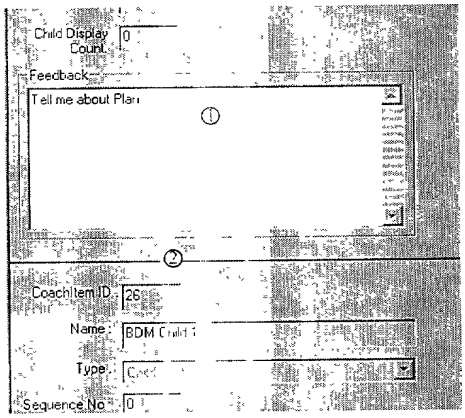


FIGURE 59

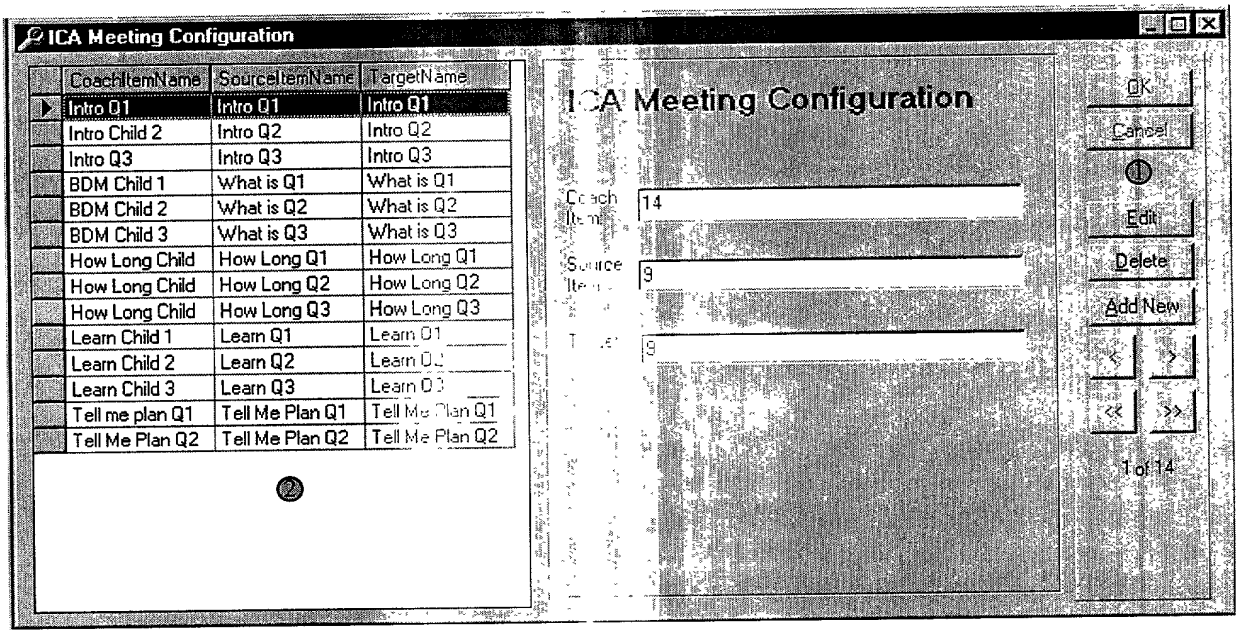


FIGURE 60

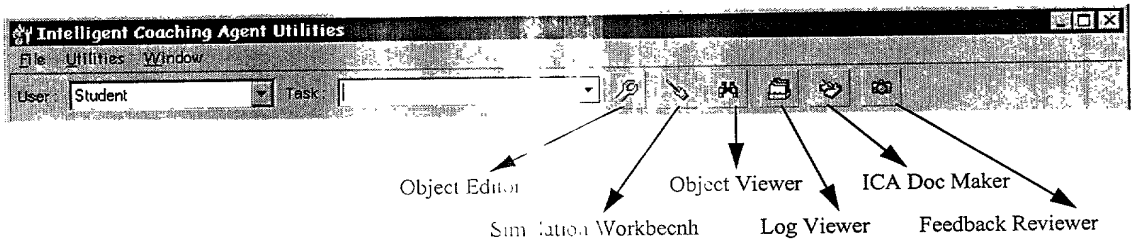


FIGURE 61

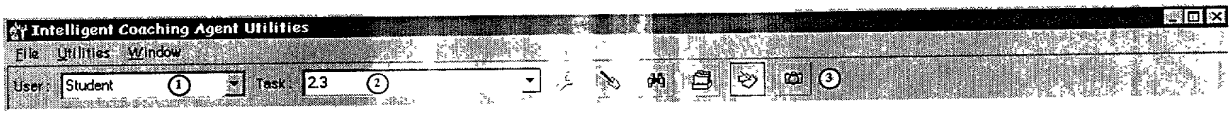


FIGURE 62

FIGURE 63

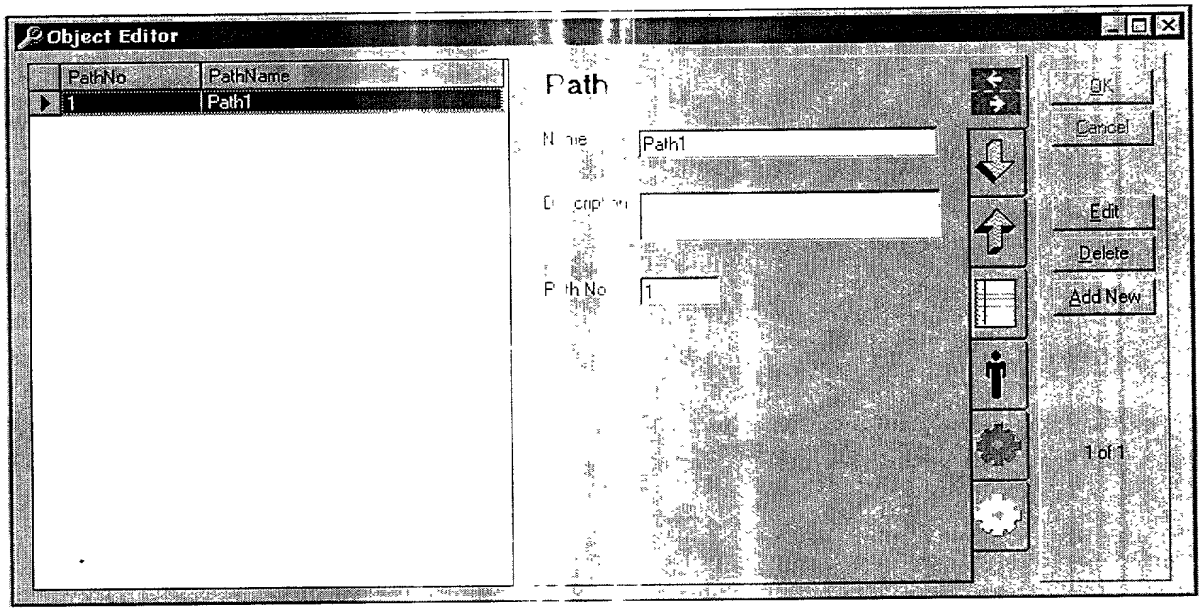


FIGURE 64

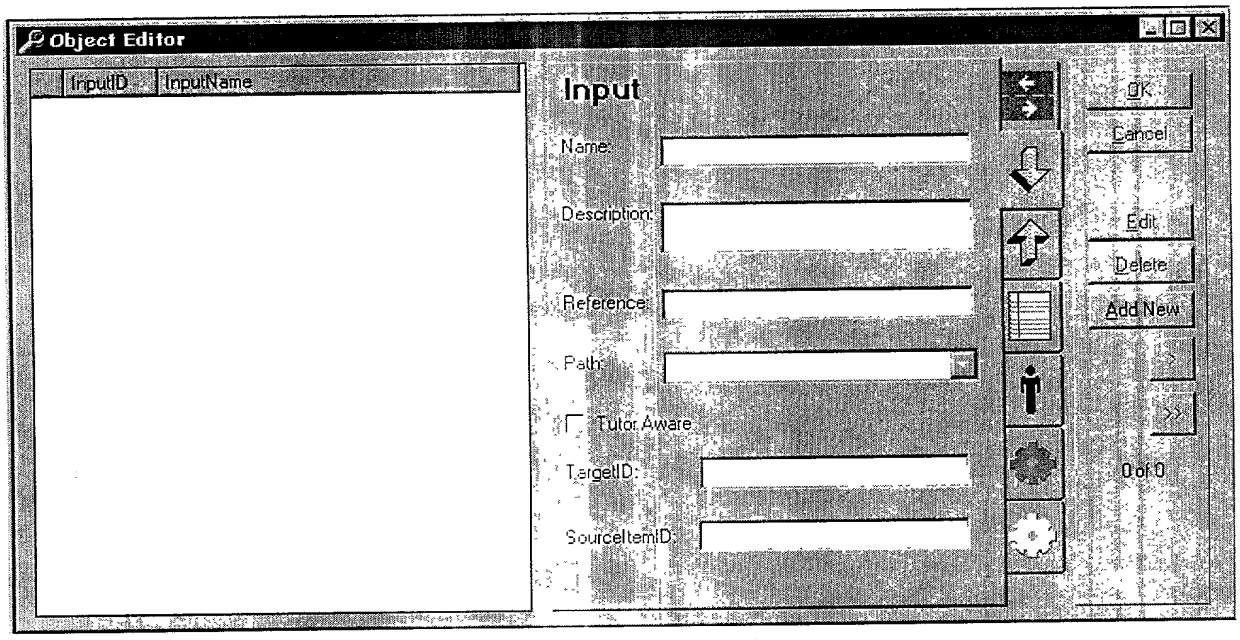


FIGURE 65

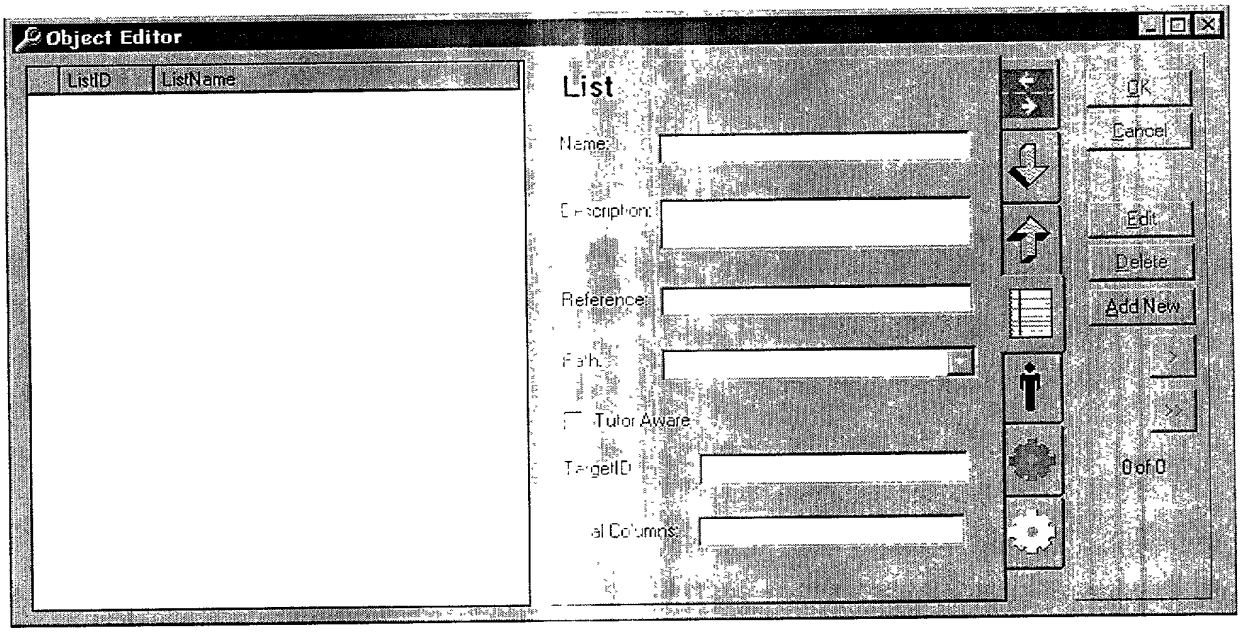


FIGURE 66

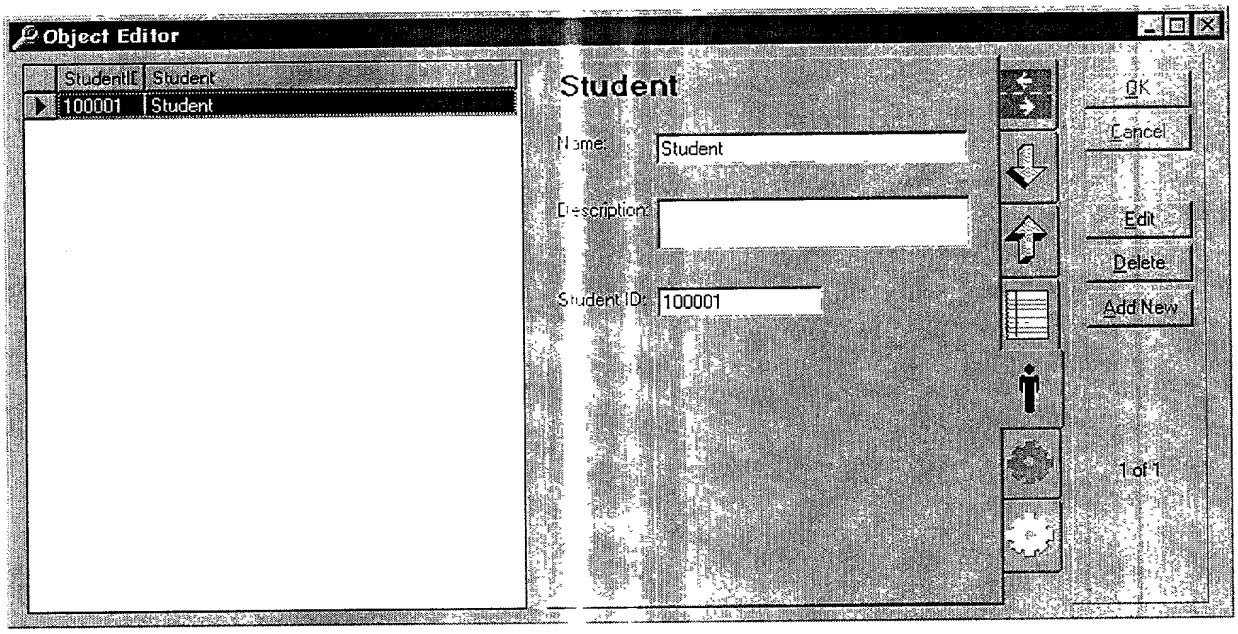


FIGURE 67A

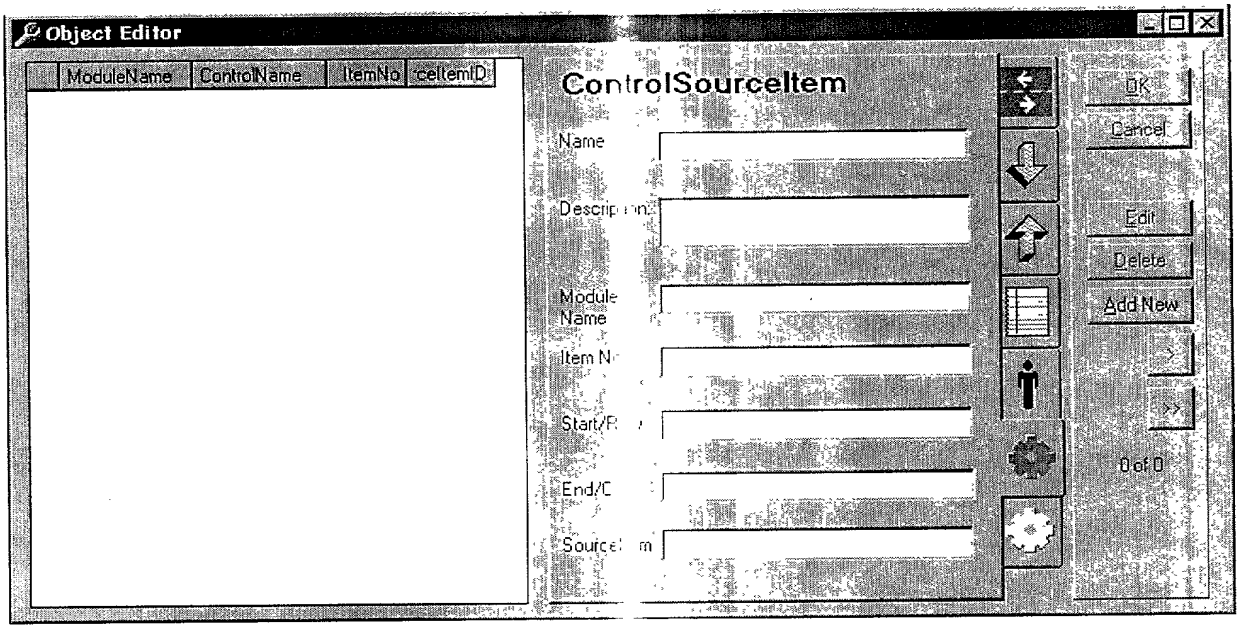


FIGURE 67B

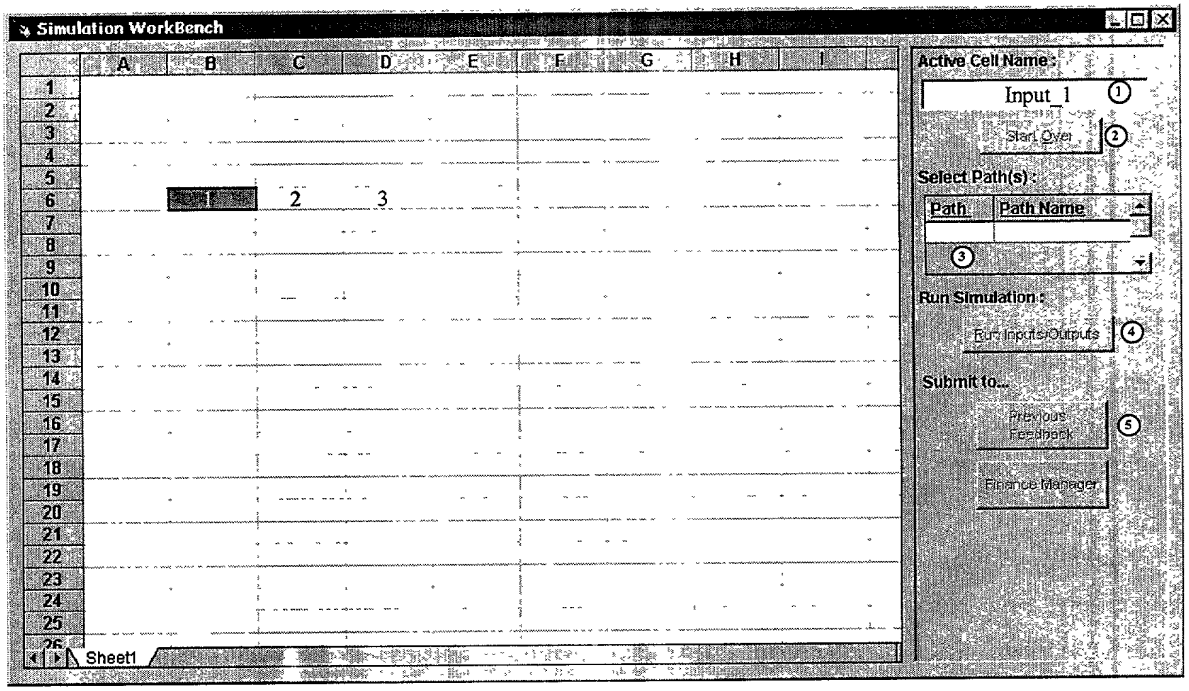


Figure 68

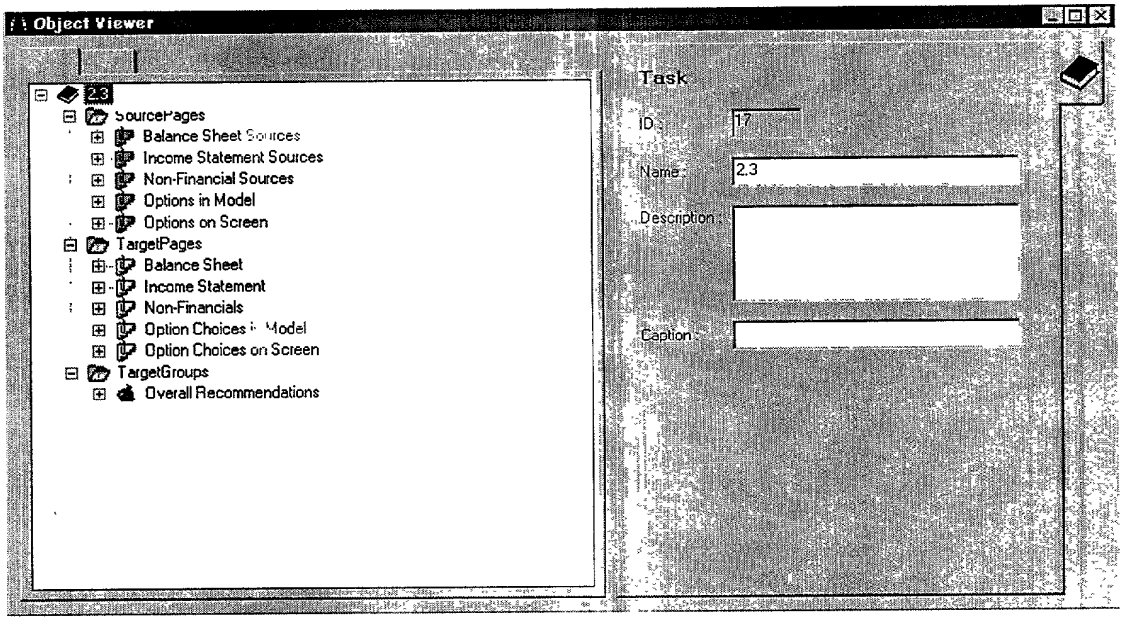


Figure 69

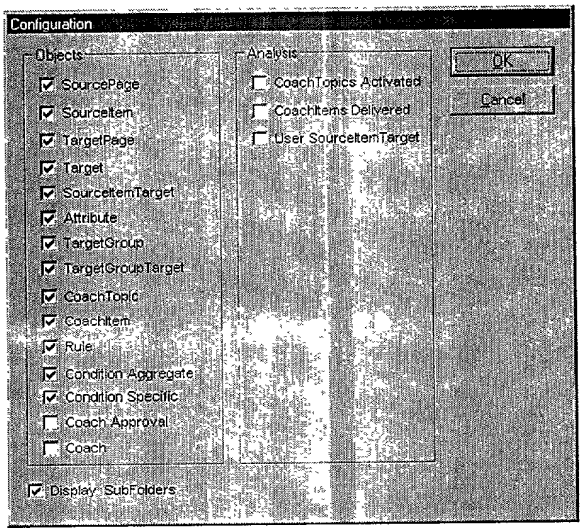


Figure 70

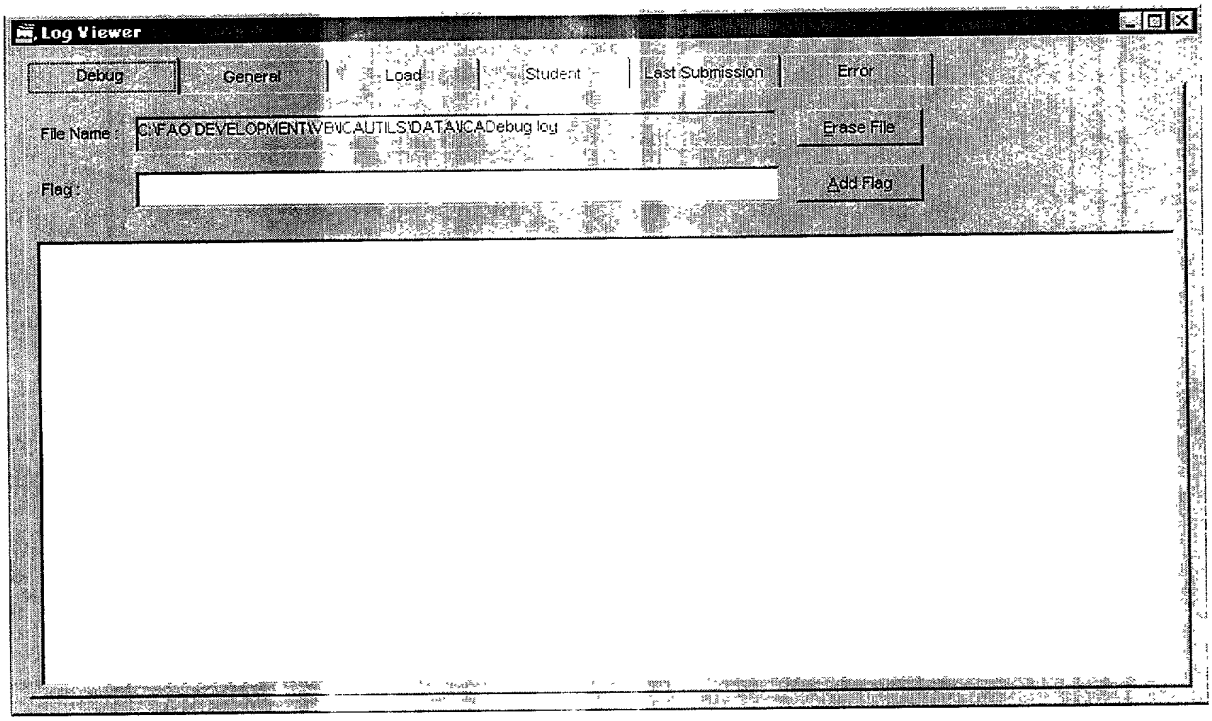


Figure 71

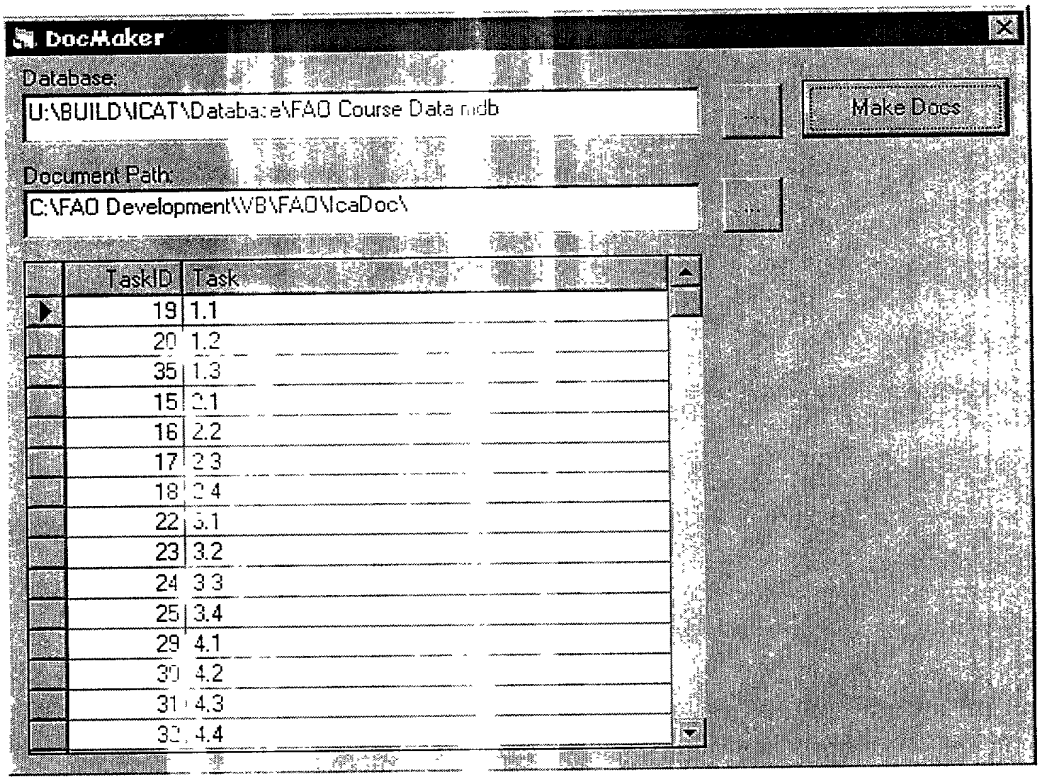

DocMaker
Database:
U:\BUILD\ICAT\Database\FAO Course Data.mdb
...
Make Docs
Document Path:
C:\FAO Development\VB\FAO\IcaDoc\
...
TaskID
Task
19 1.1
20 1.2
35 1.3
15 2.1
16 2.2
17 2.3
18 2.4
22 3.1
23 3.2
24 3.3
25 3.4
29 4.1
30 4.2
31 4.3
32 4.4

Figure 72

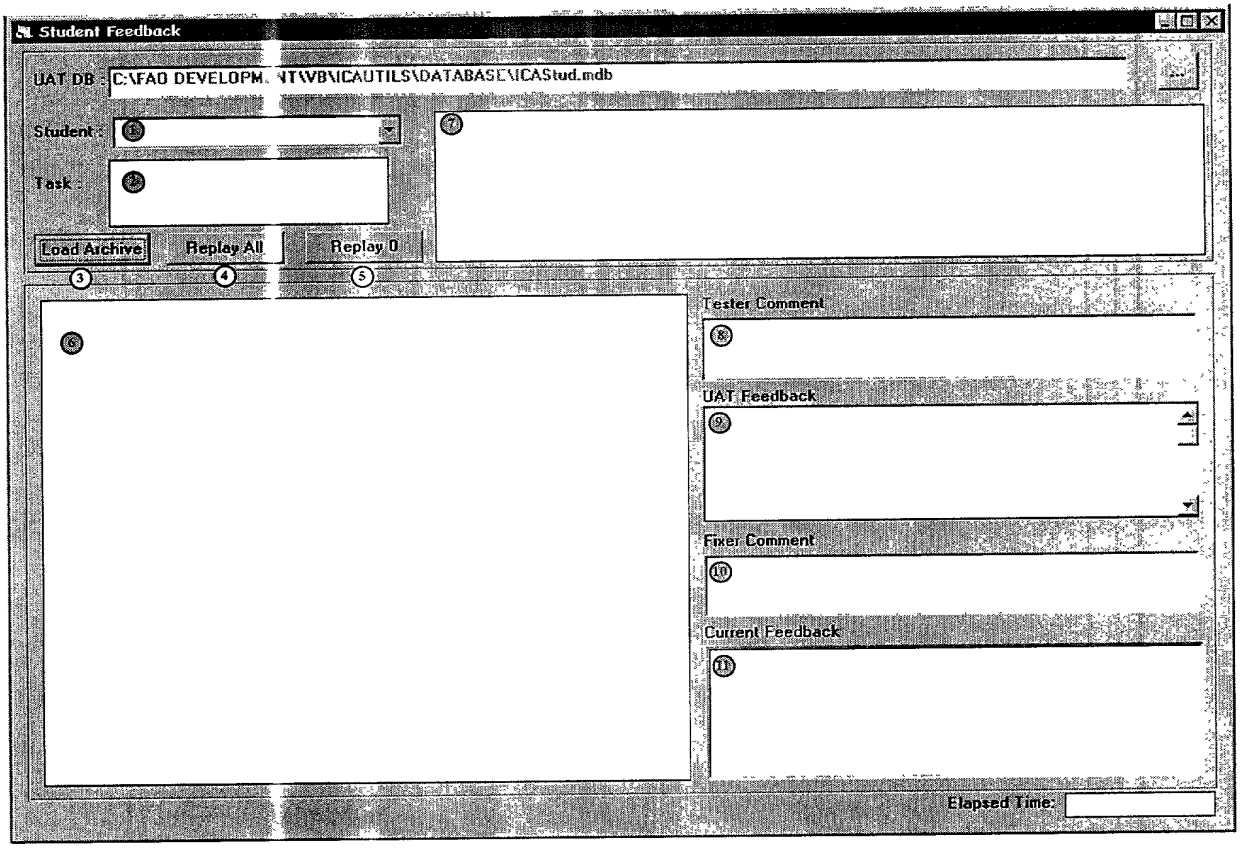

Student Feedback
UAT DB : C:\FAO DEVELOPM. \T\VB\ICAUTILS\DATABASE\ICAStud.mdb
Student :
Task :
Load Archive
Replay All
Replay 0
Tester Comment
UAT Feedback
Fixer Comment
Current Feedback
Elapsed Time:

Figure 73

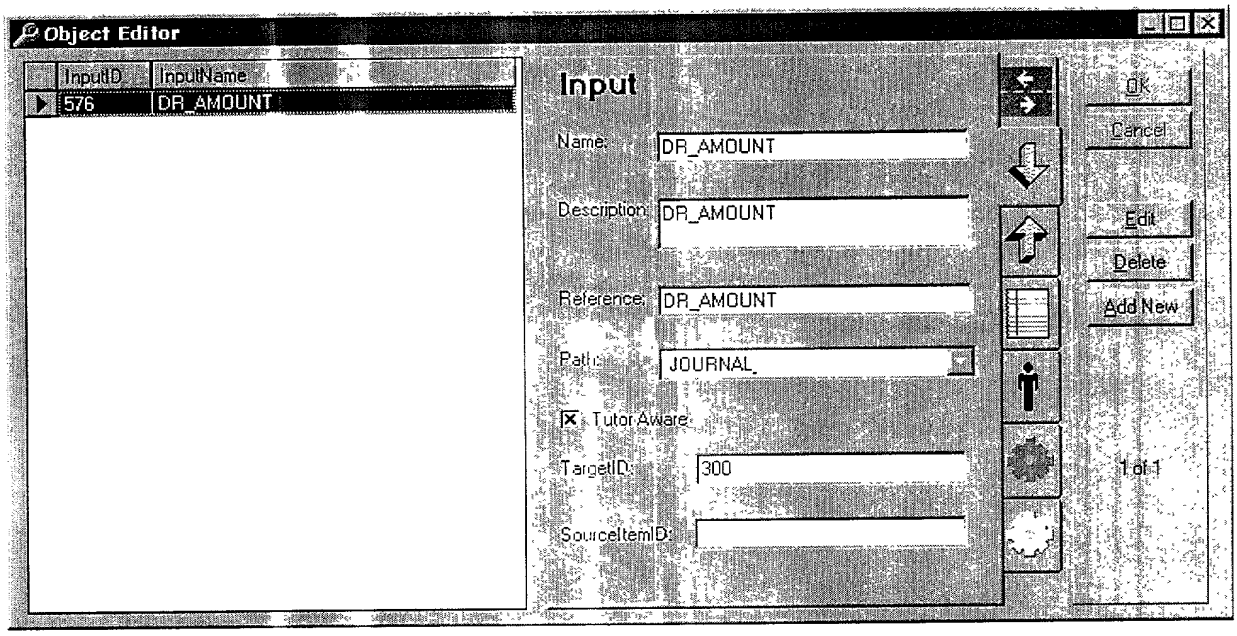

Object Editor
InputID
InputName
576
DR_AMOUNT
Input
Name:
DR_AMOUNT
Description:
DR_AMOUNT
Reference:
DR_AMOUNT
Path:
JOURNAL
Tutor Aware
TargetID:
300
SourceItemID:
OK
Cancel
Edit
Delete
Add New
1 of 1

Figure 74

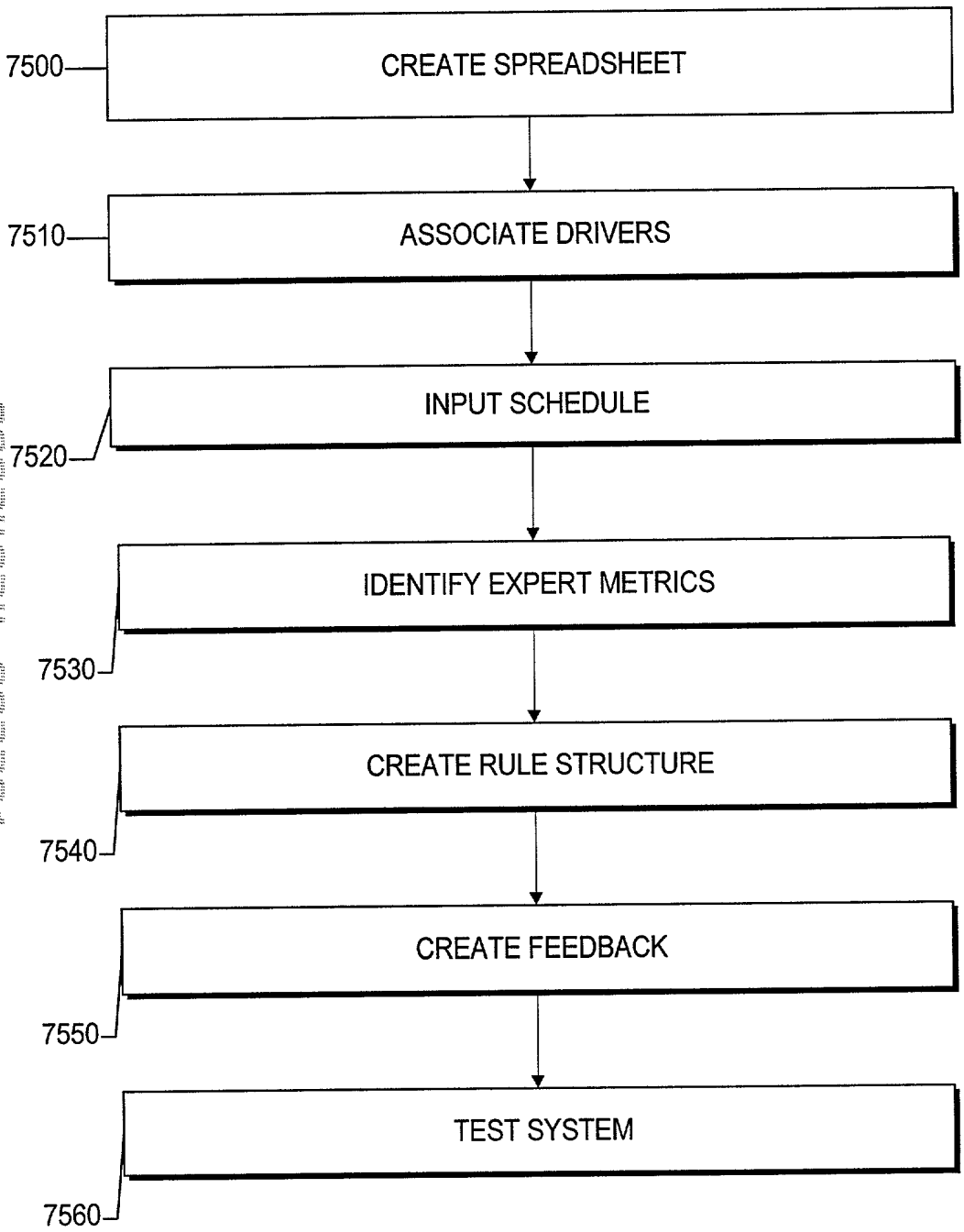

7500
CREATE SPREADSHEET
7510
ASSOCIATE DRIVERS
INPUT SCHEDULE
7520
IDENTIFY EXPERT METRICS
7530
CREATE RULE STRUCTURE
7540
CREATE FEEDBACK
7550
TEST SYSTEM
7560

FIGURE 75

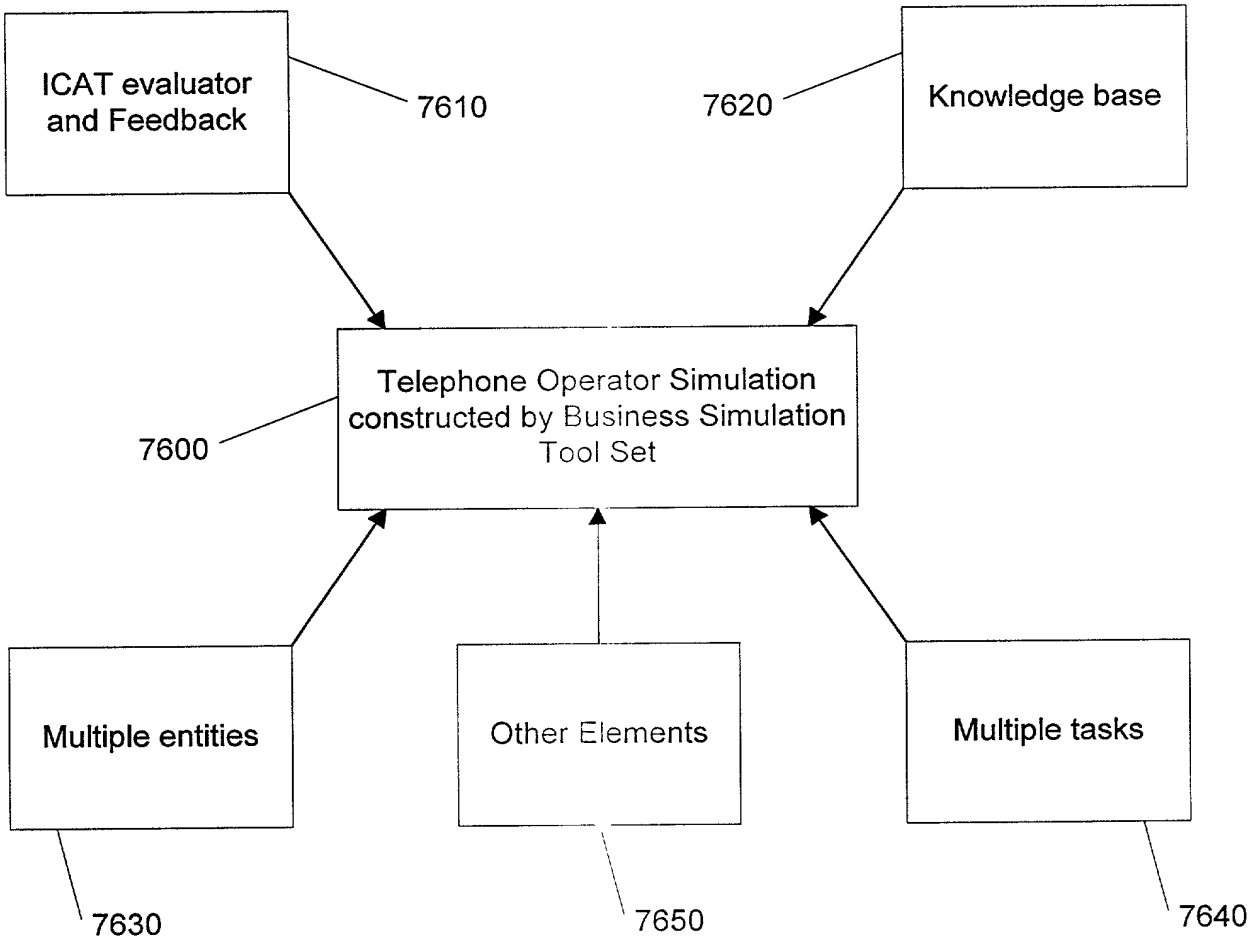


Figure 76
Assembly of Telephone Operator Training Simulation

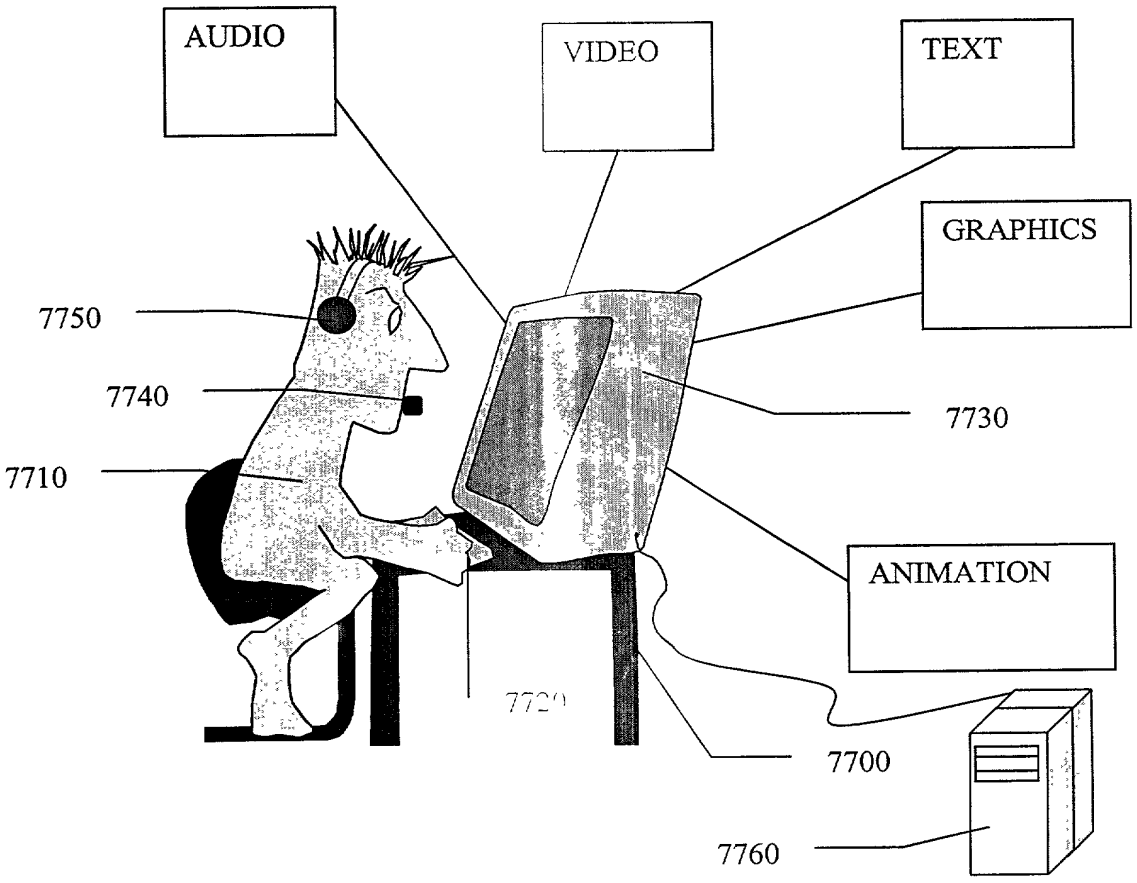

AUDIO
VIDEO
TEXT
GRAPHICS
7750
7740
7730
7710
ANIMATION
7700
7760

FIGURE 77

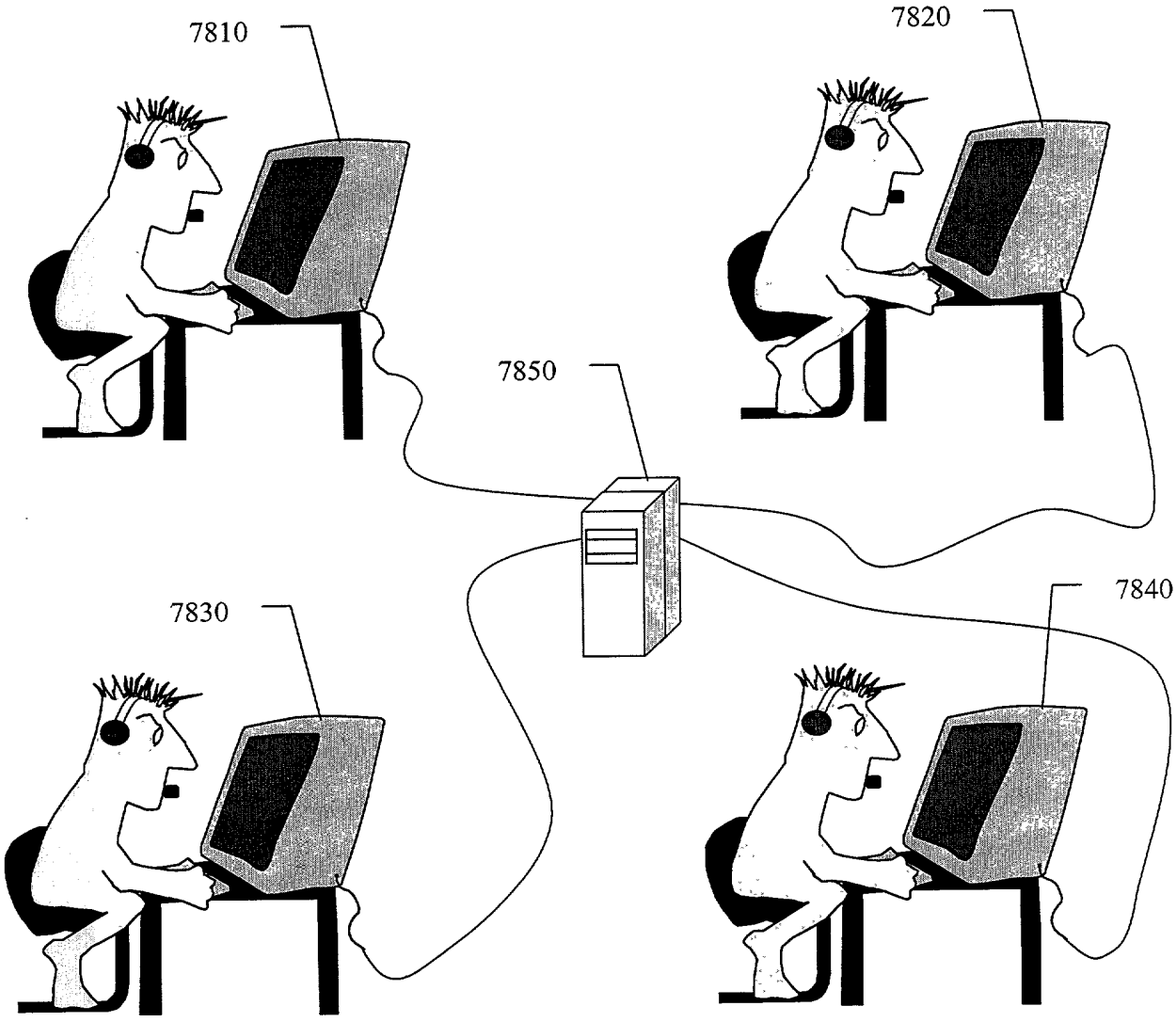


FIGURE 78

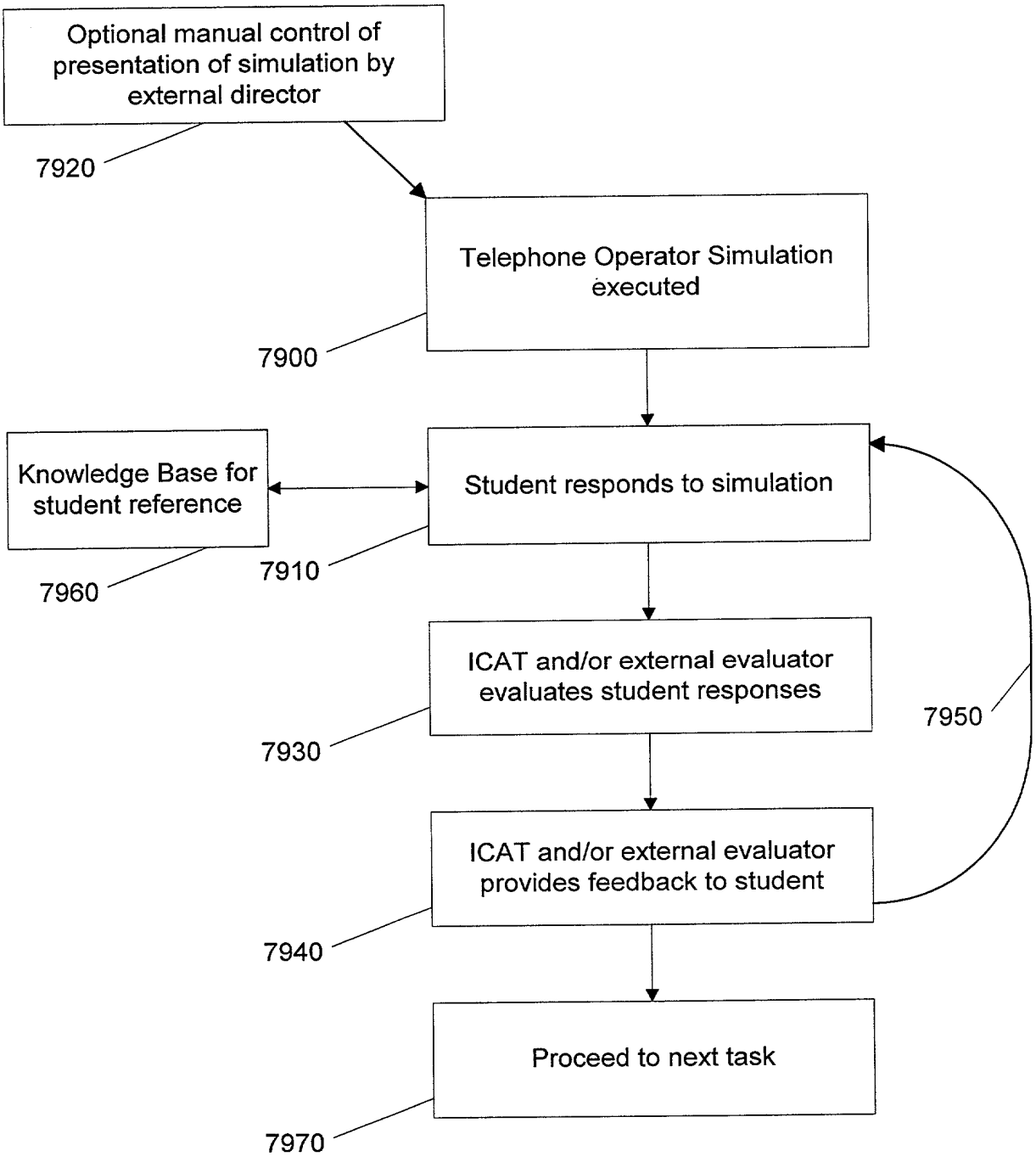


Figure 79
Telephone Operator Training
Simulation Execution

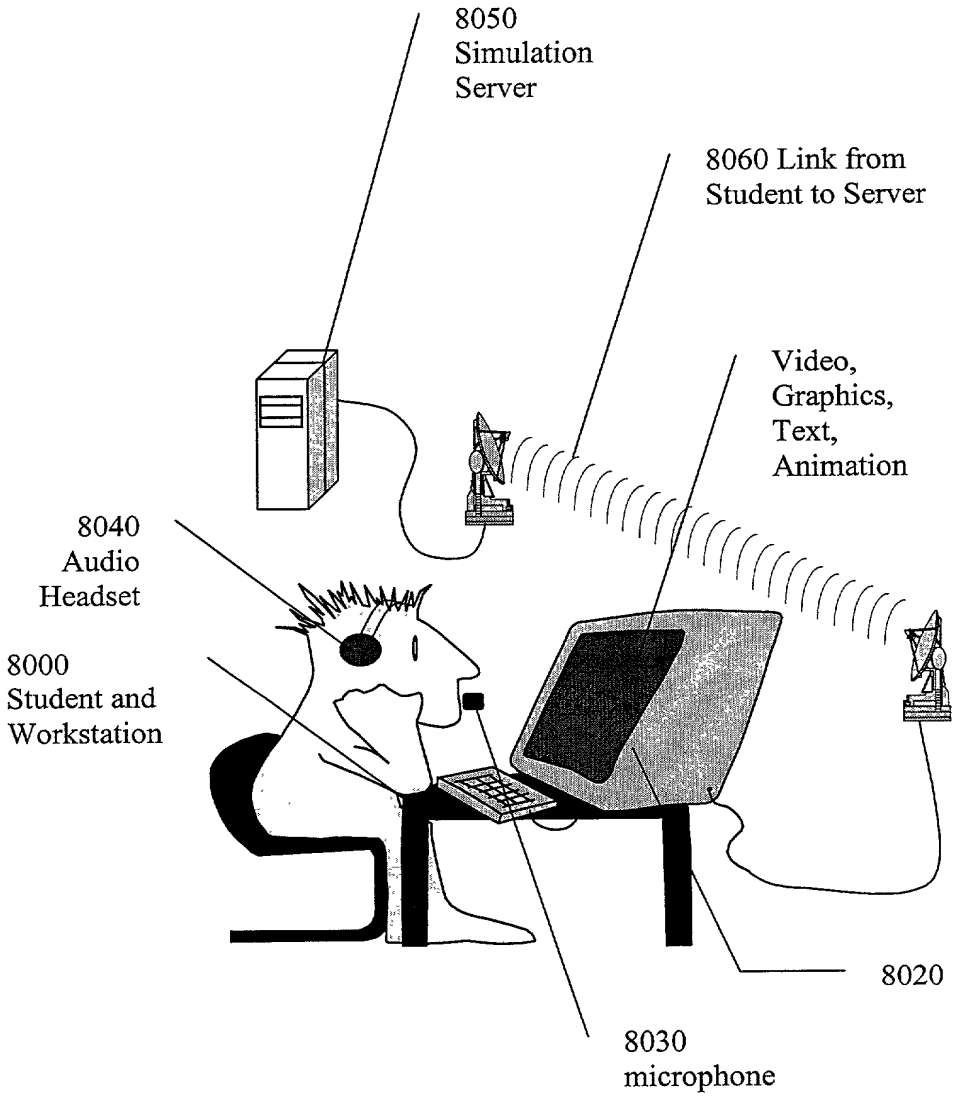

8050
Simulation
Server
8060 Link from
Student to Server
Video,
Graphics,
Text,
Animation
8040
Audio
Headset
8000
Student and
Workstation
8020
8030
microphone

Figure 80

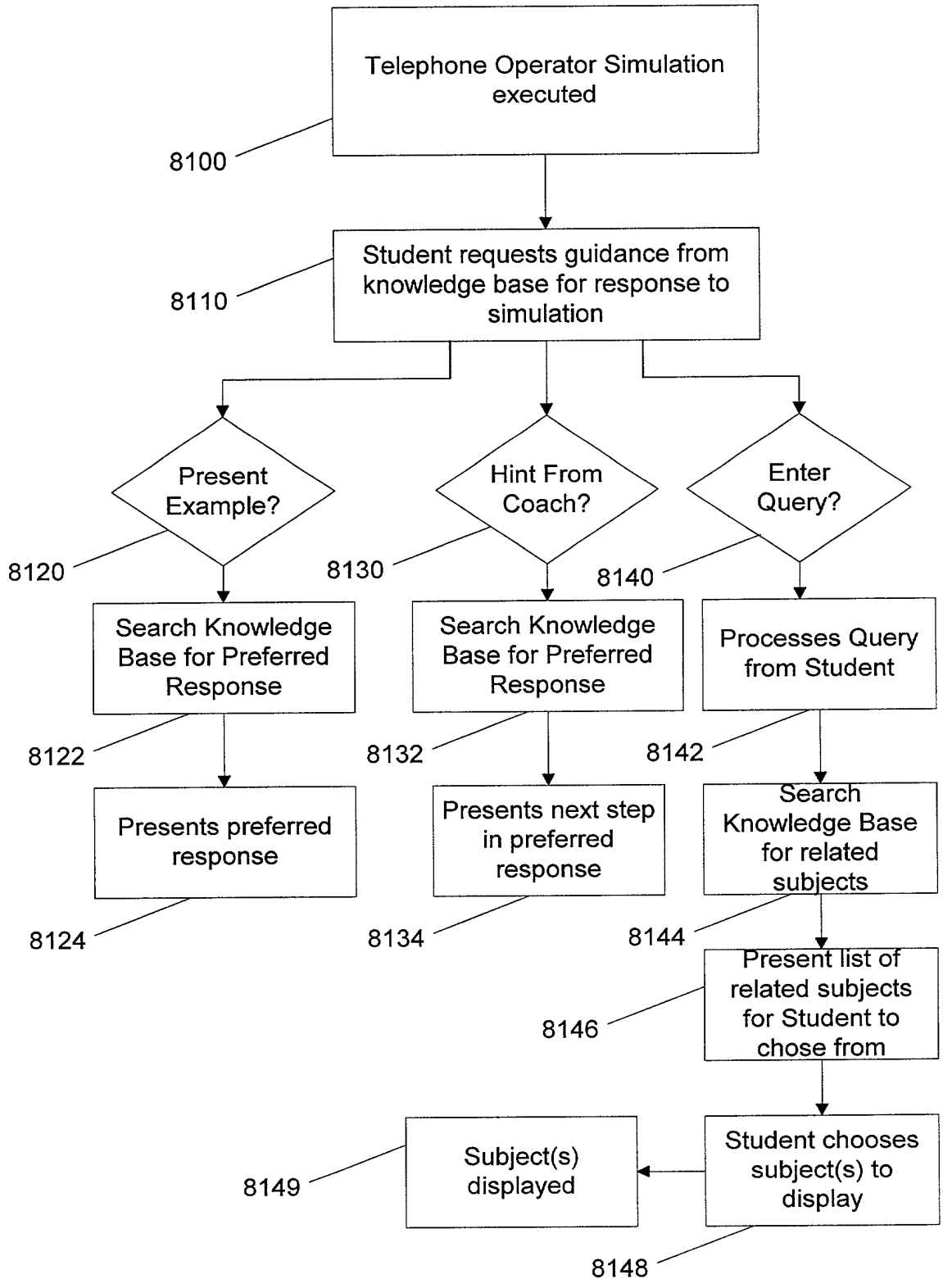


Figure 81
Query Knowledge Base

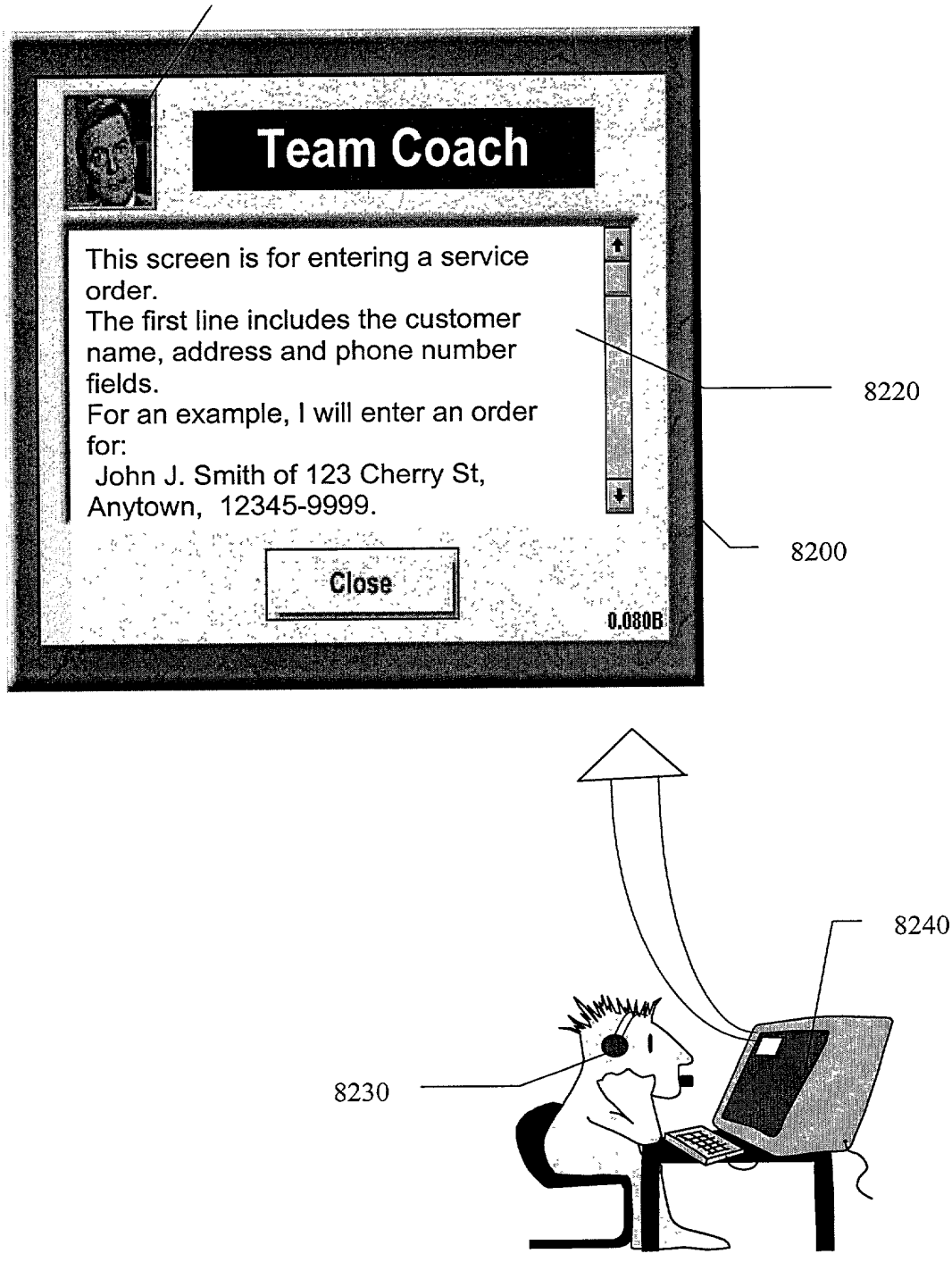

Team Coach
This screen is for entering a service order.
The first line includes the customer name, address and phone number fields.
For an example, I will enter an order for:
John J. Smith of 123 Cherry St, Anytown, 12345-9999.
Close
0.080B
8220
8200
8240
8230

Figure 82

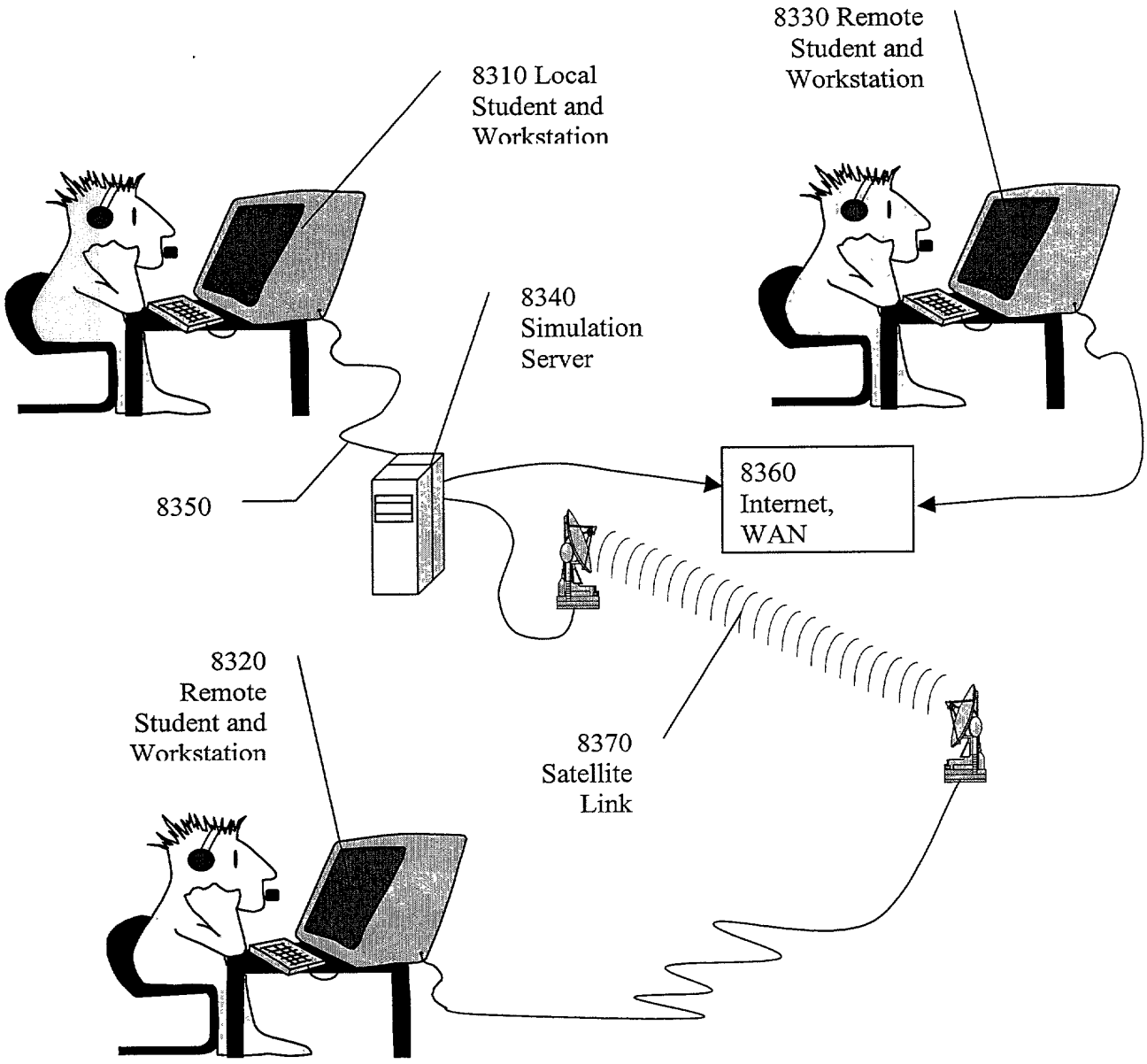

8330 Remote
Student and
Workstation
8310 Local
Student and
Workstation
8340
Simulation
Server
8350
8360
Internet,
WAN
8320
Remote
Student and
Workstation
8370
Satellite
Link

Figure 83

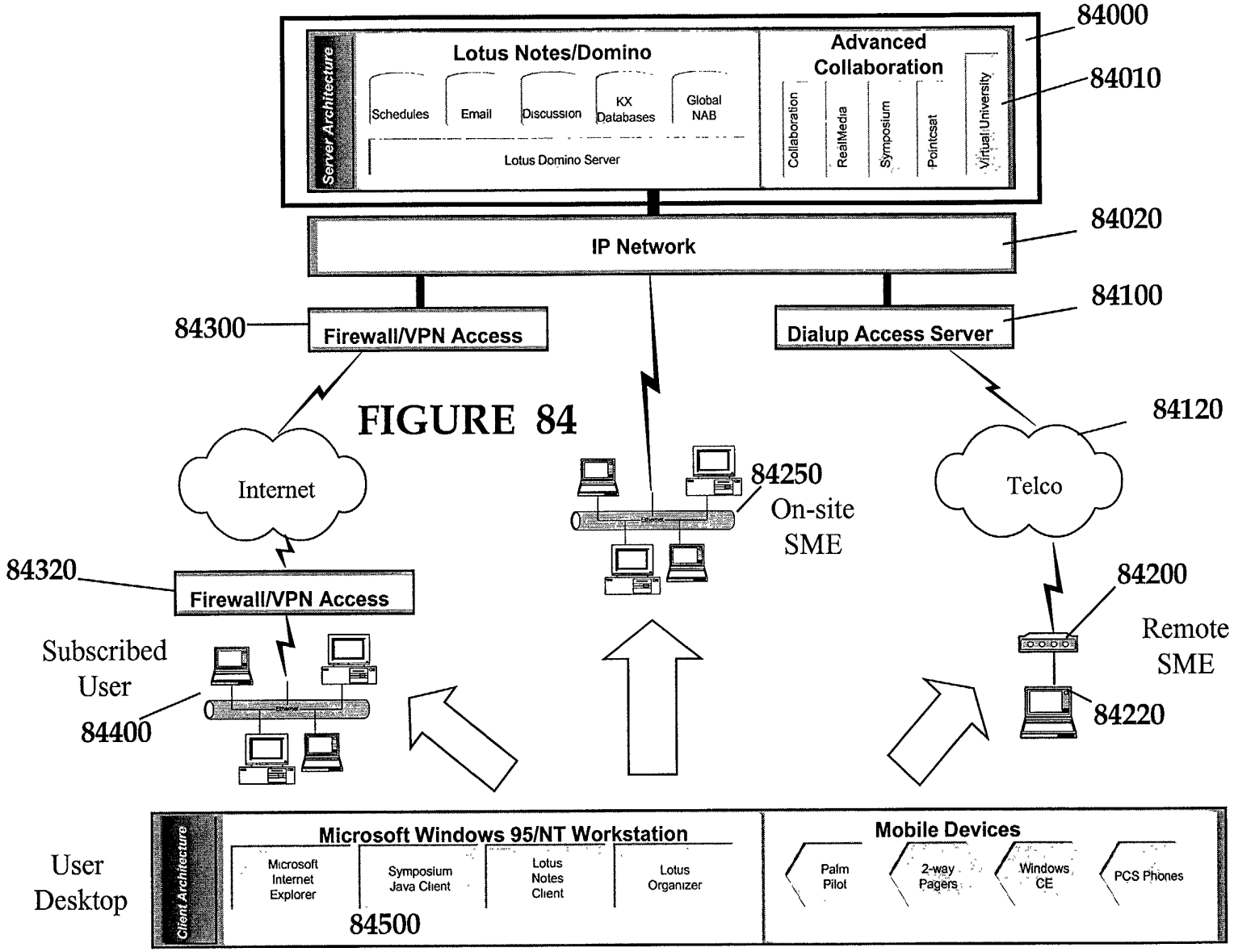
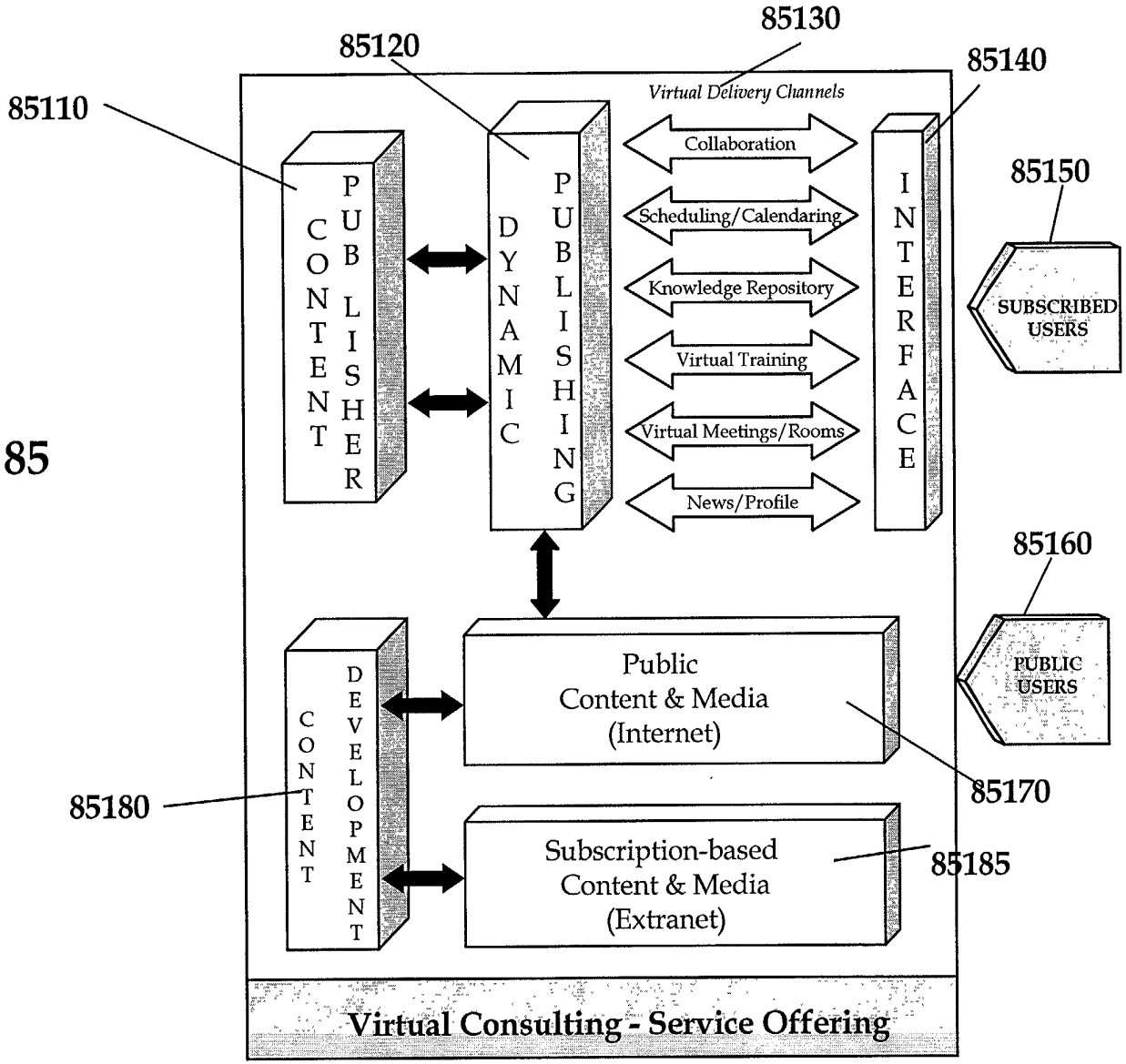


FIGURE 84

09934924.082201

FIGURE 85



09934924.082201

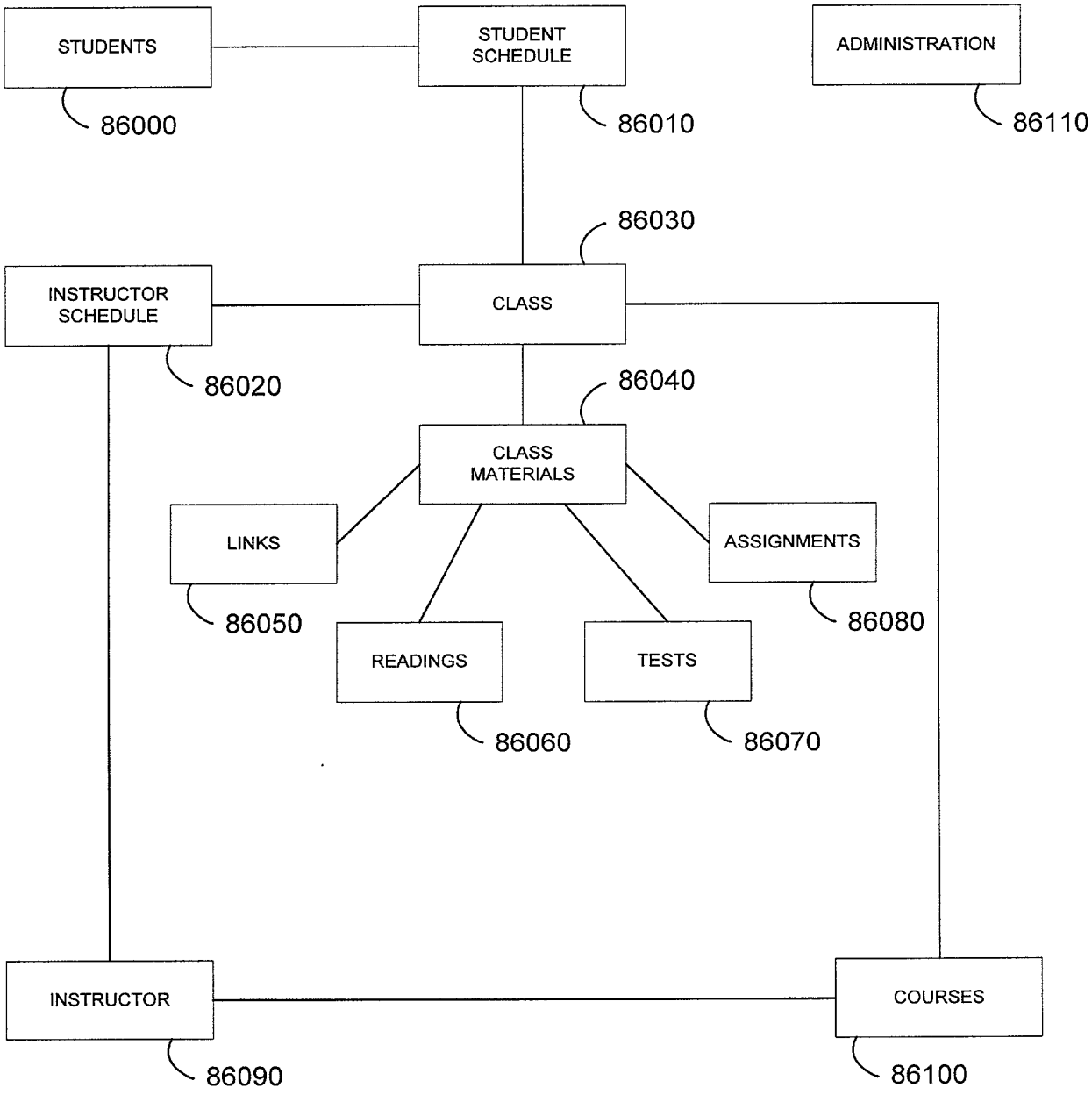

STUDENTS
86000
STUDENT SCHEDULE
86010
ADMINISTRATION
86110
86030
INSTRUCTOR SCHEDULE
86020
CLASS
86040
CLASS MATERIALS
LINKS
86050
ASSIGNMENTS
86080
READINGS
86060
TESTS
86070
INSTRUCTOR
86090
COURSES
86100

FIGURE 86

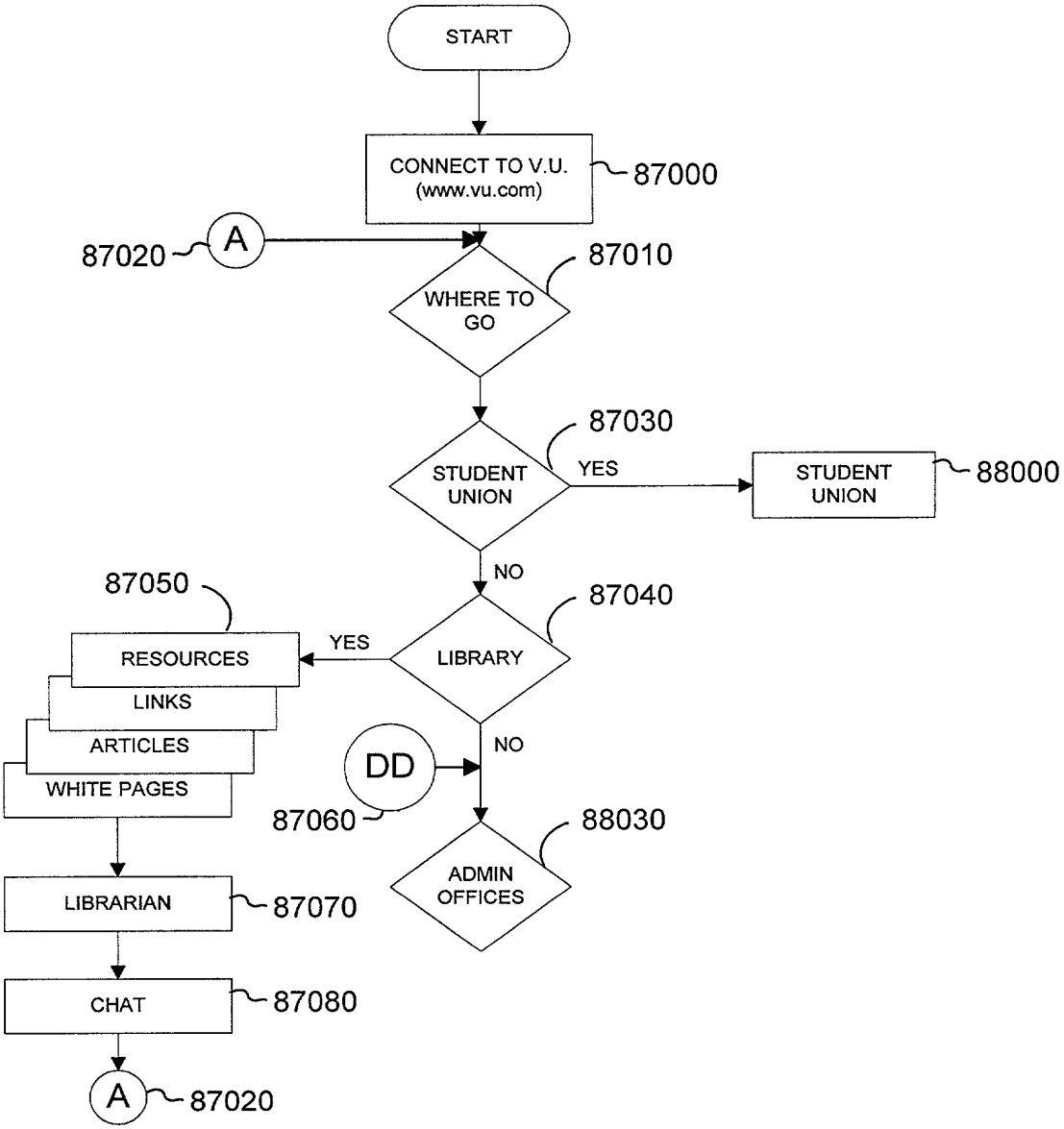

START
CONNECT TO V.U.
(www.vu.com)
87000
87020
A
87010
WHERE TO GO
87030
STUDENT UNION
YES
STUDENT UNION
88000
NO
87050
87040
RESOURCES
YES
LIBRARY
LINKS
ARTICLES
WHITE PAGES
DD
NO
87060
88030
ADMIN OFFICES
LIBRARIAN
87070
CHAT
87080
A
87020

FIGURE 87

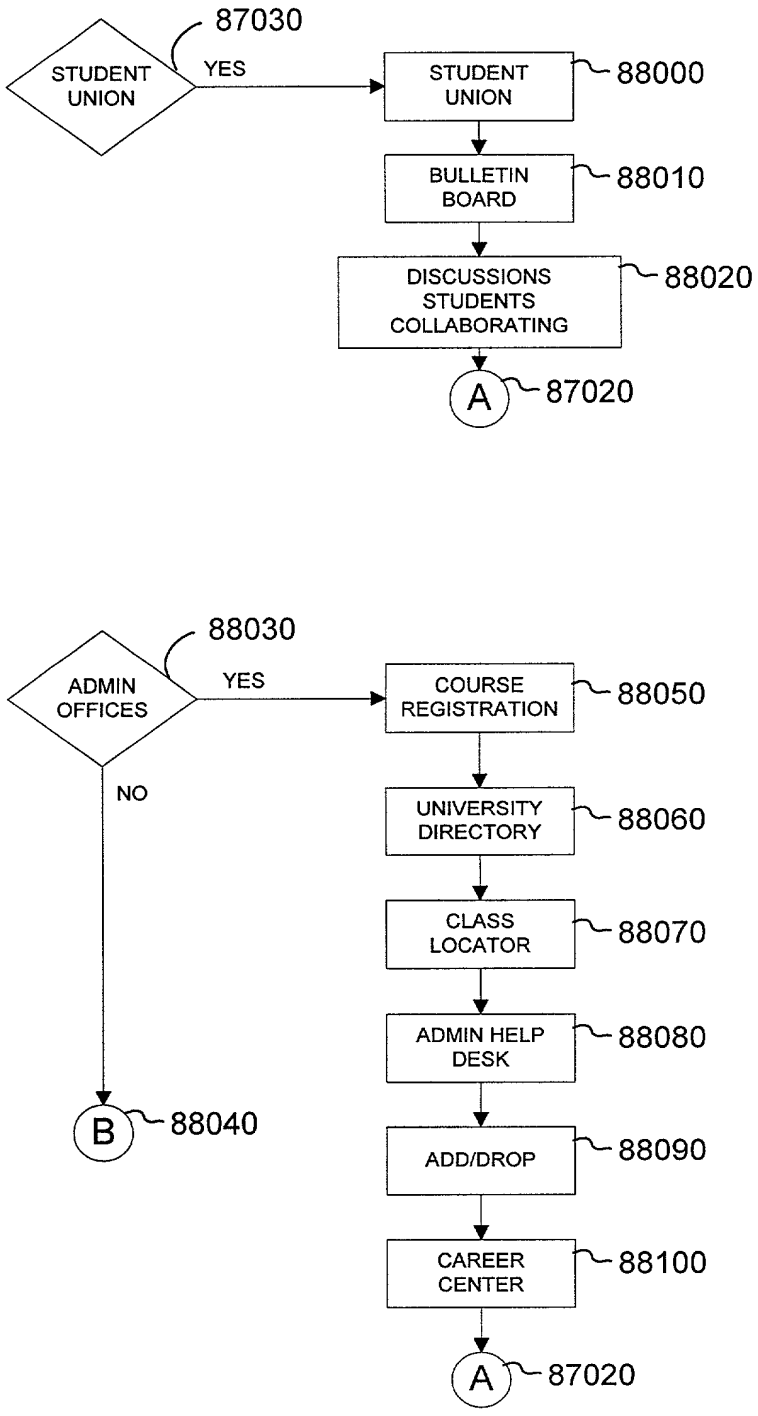

87030
STUDENT UNION
YES
STUDENT UNION
88000
BULLETIN BOARD
88010
DISCUSSIONS STUDENTS COLLABORATING
88020
A
87020
88030
ADMIN OFFICES
YES
COURSE REGISTRATION
88050
NO
UNIVERSITY DIRECTORY
88060
CLASS LOCATOR
88070
ADMIN HELP DESK
88080
B
88040
ADD/DROP
88090
CAREER CENTER
88100
A
87020

FIGURE 88

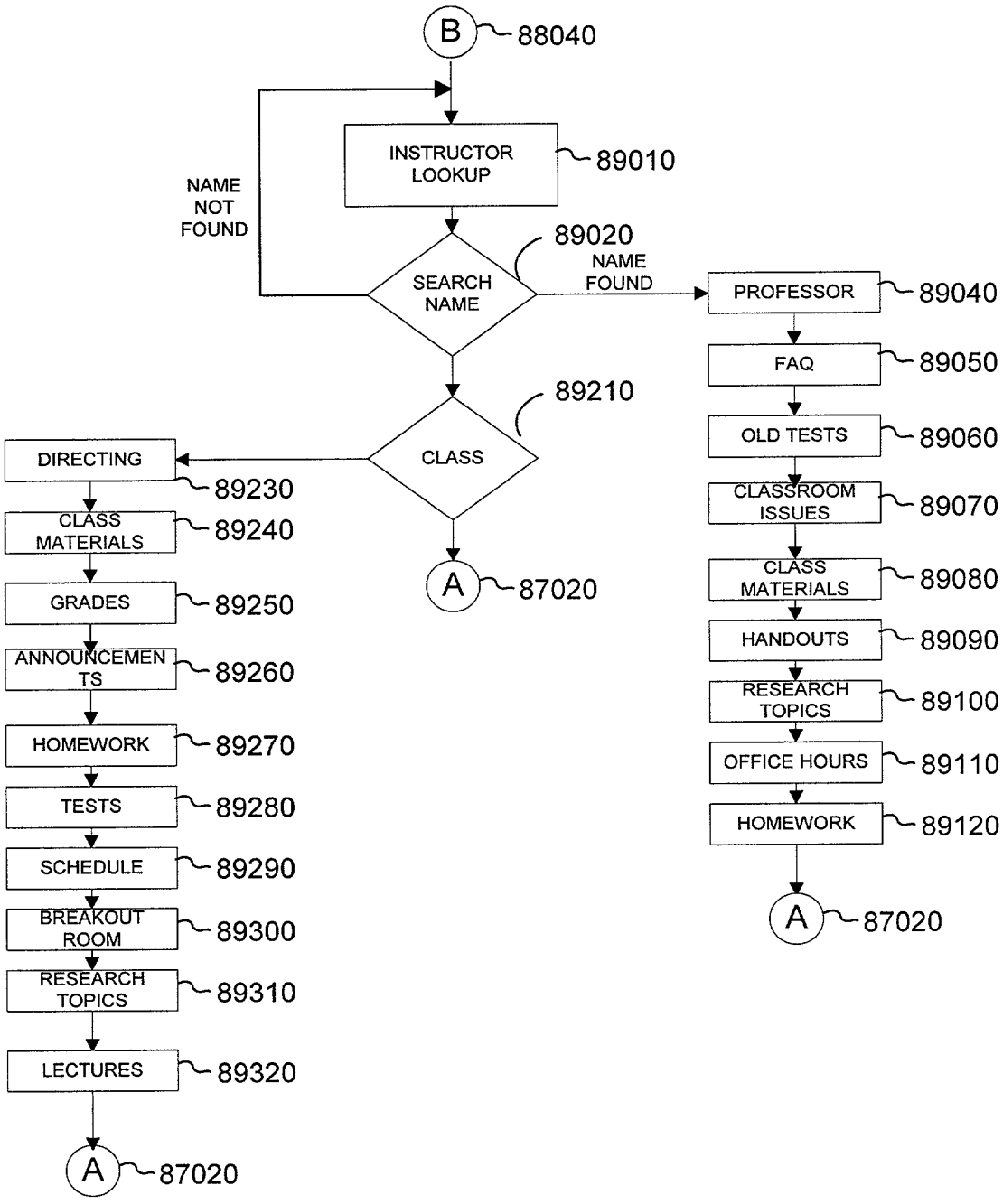

B
88040
INSTRUCTOR LOOKUP
89010
NAME NOT FOUND
SEARCH NAME
89020
NAME FOUND
PROFESSOR
89040
FAQ
89050
OLD TESTS
89060
CLASSROOM ISSUES
89070
CLASS MATERIALS
89080
HANDOUTS
89090
RESEARCH TOPICS
89100
OFFICE HOURS
89110
HOMEWORK
89120
A
87020
CLASS
89210
DIRECTING
89230
CLASS MATERIALS
89240
GRADES
89250
ANNOUNCEMENTS
89260
HOMEWORK
89270
TESTS
89280
SCHEDULE
89290
BREAKOUT ROOM
89300
RESEARCH TOPICS
89310
LECTURES
89320
A
87020

FIGURE 89

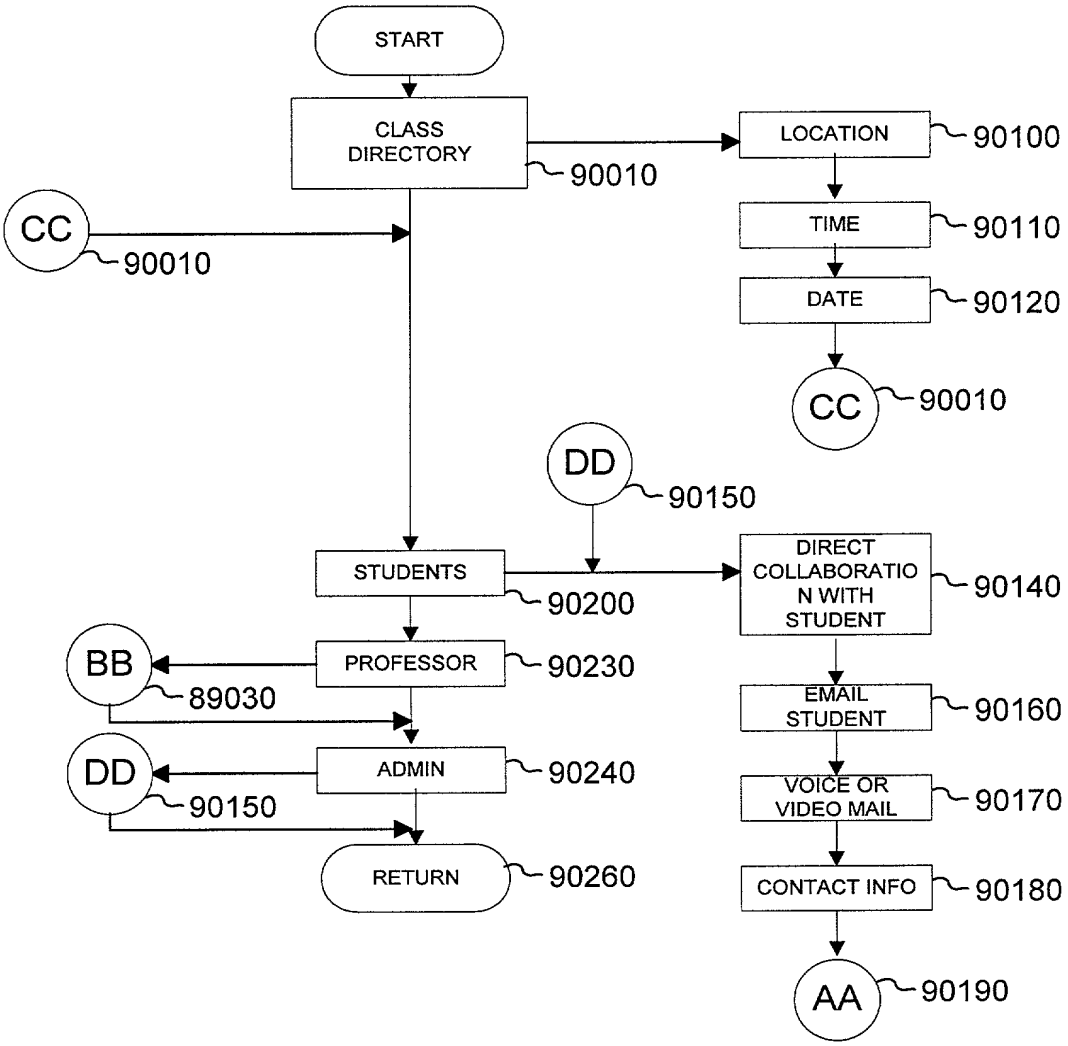

START
CLASS DIRECTORY
90010
LOCATION
90100
TIME
90110
DATE
90120
CC
90010
CC
90010
DD
90150
STUDENTS
90200
DIRECT COLLABORATIO N WITH STUDENT
90140
BB
89030
PROFESSOR
90230
EMAIL STUDENT
90160
DD
90150
ADMIN
90240
VOICE OR VIDEO MAIL
90170
RETURN
90260
CONTACT INFO
90180
AA
90190

FIGURE 90

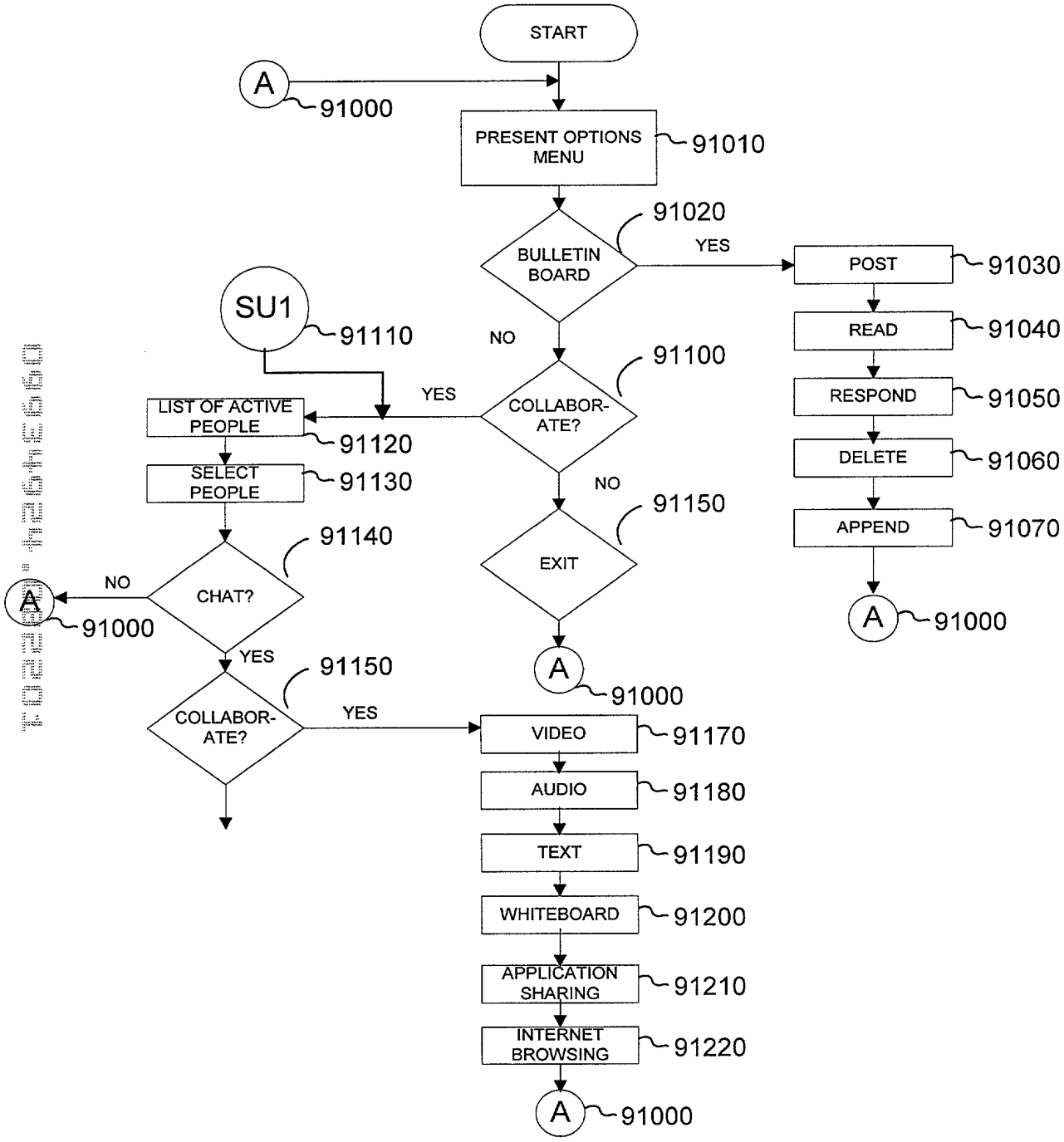

START
A
91000
PRESENT OPTIONS MENU
91010
BULLETIN BOARD
91020
YES
POST
91030
READ
91040
RESPOND
91050
DELETE
91060
APPEND
91070
A
91000
NO
SU1
91110
COLLABOR-ATE?
91100
YES
LIST OF ACTIVE PEOPLE
91120
SELECT PEOPLE
91130
NO
EXIT
91150
A
91000
CHAT?
91140
NO
A
91000
YES
COLLABOR-ATE?
91150
YES
VIDEO
91170
AUDIO
91180
TEXT
91190
WHITEBOARD
91200
APPLICATION SHARING
91210
INTERNET BROWSING
91220
A
91000

FIGURE 91

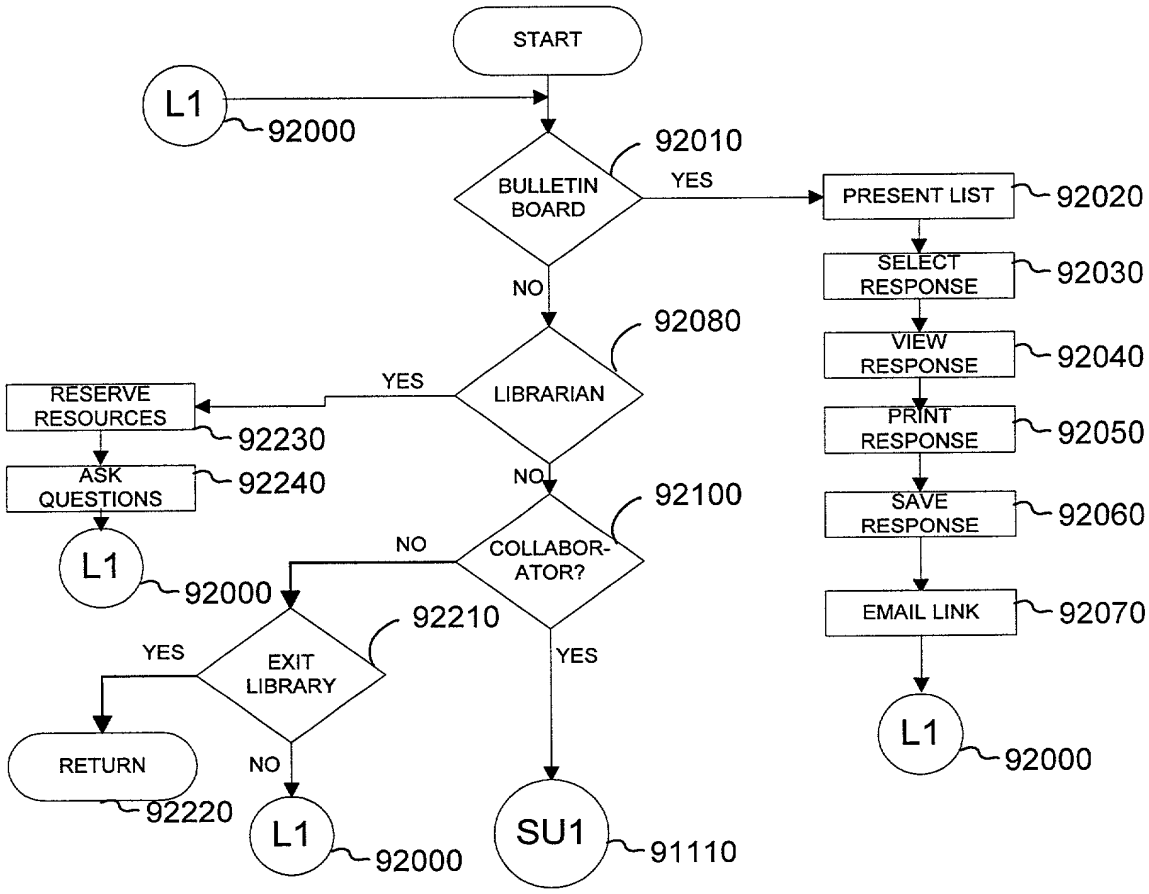

START
L1
92000
92010
BULLETIN BOARD
YES
PRESENT LIST
92020
SELECT RESPONSE
92030
VIEW RESPONSE
92040
PRINT RESPONSE
92050
SAVE RESPONSE
92060
EMAIL LINK
92070
L1
92000
NO
92080
LIBRARIAN
YES
RESERVE RESOURCES
92230
ASK QUESTIONS
92240
L1
92000
NO
92100
COLLABOR-ATOR?
NO
YES
92210
EXIT LIBRARY
YES
RETURN
92220
NO
L1
92000
SU1
91110

FIGURE 92

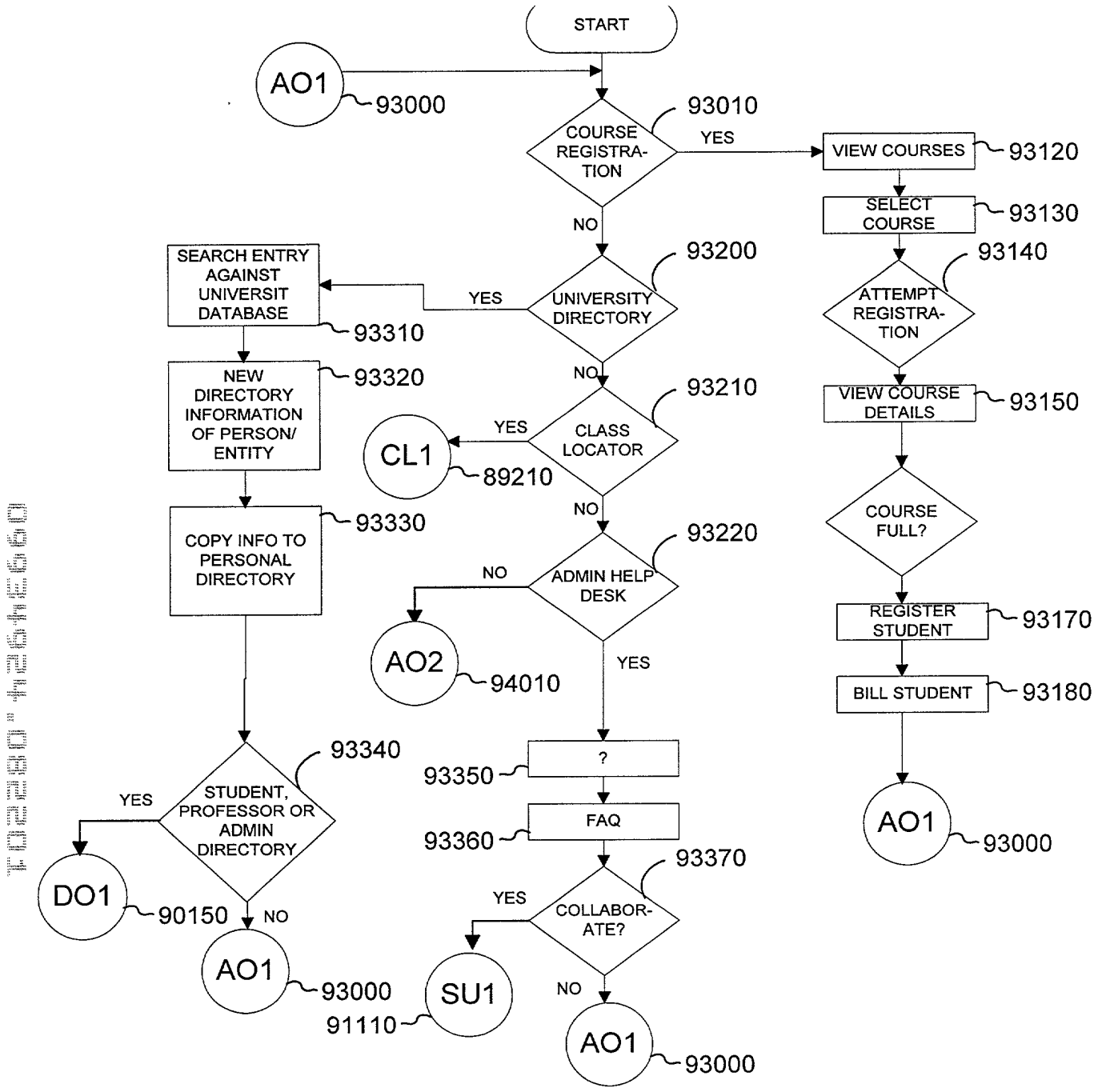

START
AO1
93000
93010
COURSE REGISTRA-TION
YES
VIEW COURSES
93120
SELECT COURSE
93130
ATTEMPT REGISTRA-TION
93140
VIEW COURSE DETAILS
93150
COURSE FULL?
REGISTER STUDENT
93170
BILL STUDENT
93180
AO1
93000
NO
93200
UNIVERSITY DIRECTORY
YES
SEARCH ENTRY AGAINST UNIVERSIT DATABASE
93310
NEW DIRECTORY INFORMATION OF PERSON/ ENTITY
93320
COPY INFO TO PERSONAL DIRECTORY
93330
NO
93210
CLASS LOCATOR
YES
CL1
89210
NO
93220
ADMIN HELP DESK
NO
AO2
94010
YES
?
93350
FAQ
93360
93370
COLLABOR-ATE?
YES
SU1
91110
NO
AO1
93000
93340
STUDENT, PROFESSOR OR ADMIN DIRECTORY
YES
DO1
90150
NO
AO1
93000

FIGURE 93

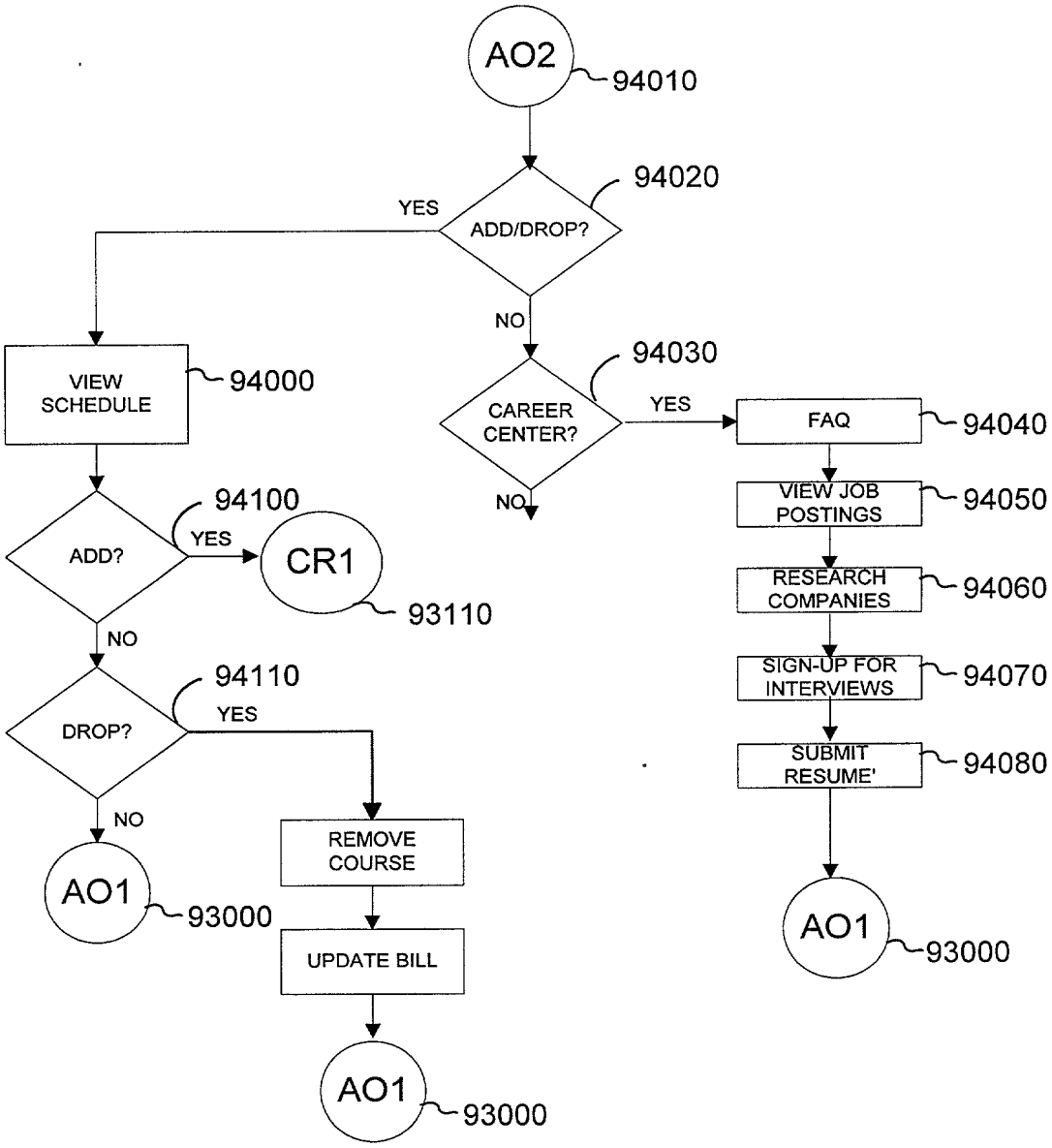

AO2
94010
94020
ADD/DROP?
YES
NO
VIEW SCHEDULE
94000
94030
CAREER CENTER?
YES
NO
FAQ
94040
VIEW JOB POSTINGS
94050
RESEARCH COMPANIES
94060
SIGN-UP FOR INTERVIEWS
94070
SUBMIT RESUME'
94080
AO1
93000
94100
ADD?
YES
CR1
93110
NO
94110
DROP?
YES
NO
REMOVE COURSE
UPDATE BILL
AO1
93000
AO1
93000

FIGURE 94

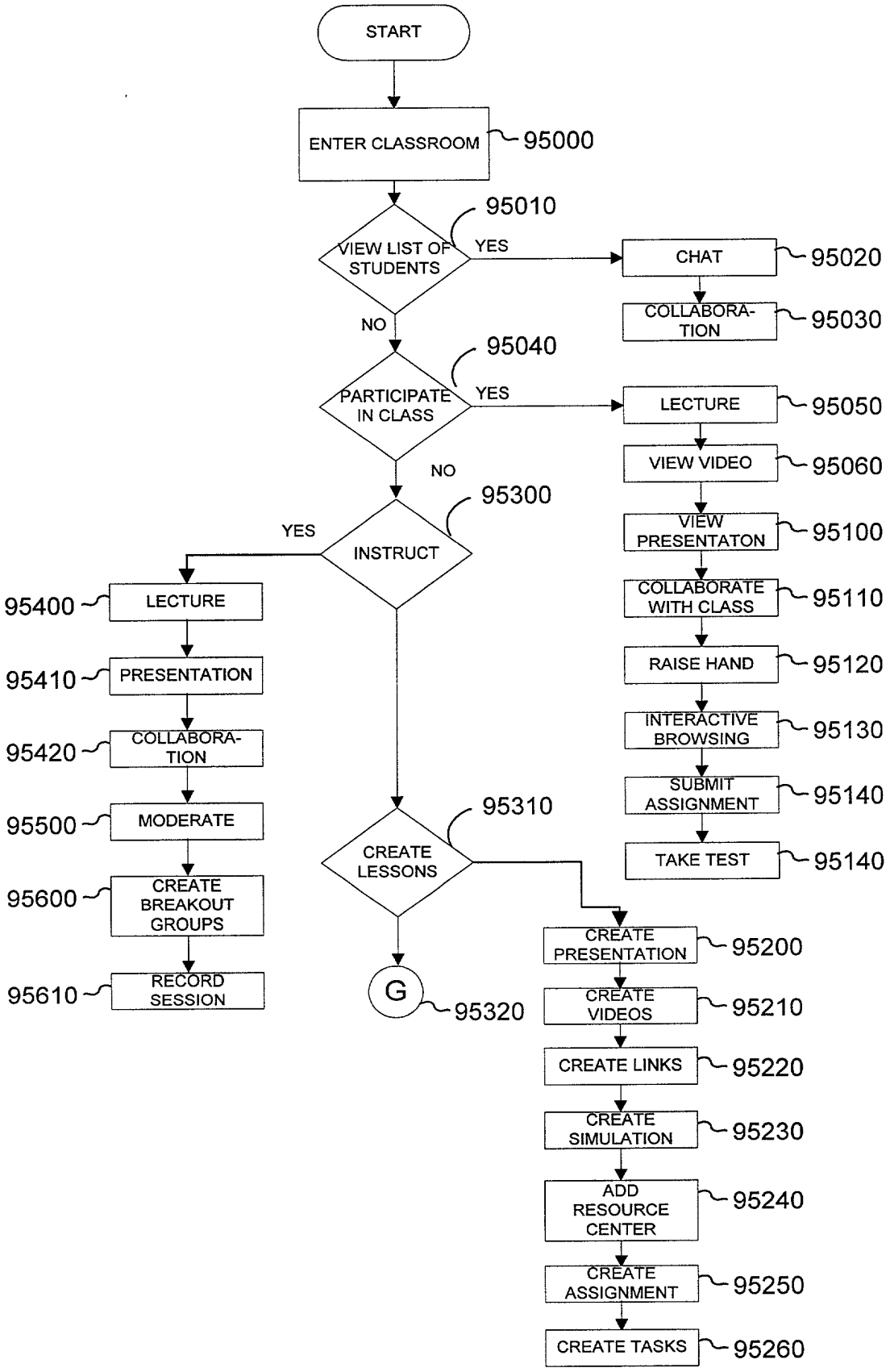

START
ENTER CLASSROOM
95000
95010
VIEW LIST OF STUDENTS
YES
CHAT
95020
COLLABORA-TION
95030
NO
95040
PARTICIPATE IN CLASS
YES
LECTURE
95050
VIEW VIDEO
95060
NO
95300
INSTRUCT
YES
VIEW PRESENTATON
95100
COLLABORATE WITH CLASS
95110
RAISE HAND
95120
INTERACTIVE BROWSING
95130
SUBMIT ASSIGNMENT
95140
TAKE TEST
95140
95400
LECTURE
95410
PRESENTATION
95420
COLLABORA-TION
95500
MODERATE
95600
CREATE BREAKOUT GROUPS
95610
RECORD SESSION
95310
CREATE LESSONS
G
95320
CREATE PRESENTATION
95200
CREATE VIDEOS
95210
CREATE LINKS
95220
CREATE SIMULATION
95230
ADD RESOURCE CENTER
95240
CREATE ASSIGNMENT
95250
CREATE TASKS
95260

FIGURE 95

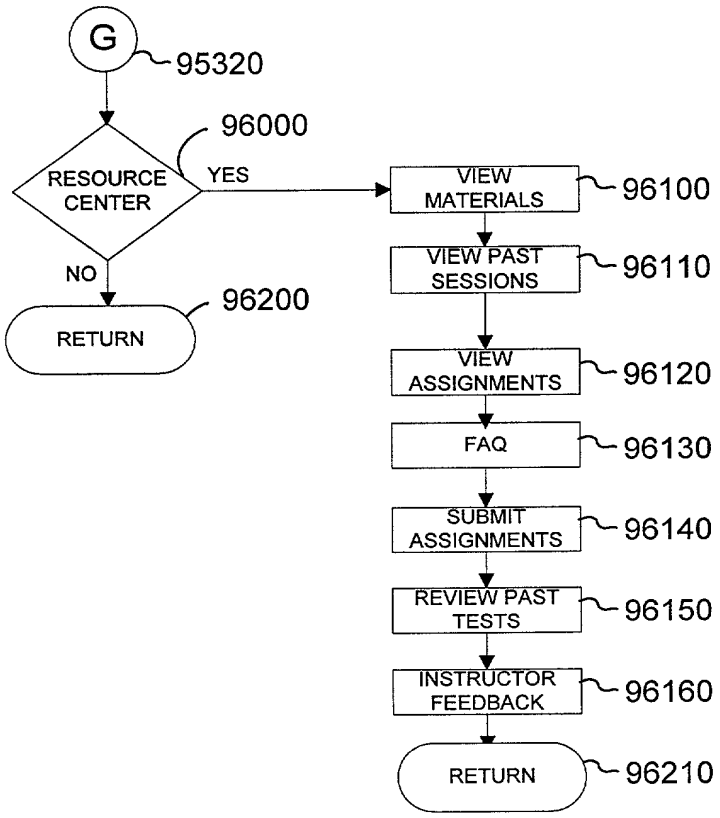

G
95320
96000
RESOURCE CENTER
YES
NO
96200
RETURN
VIEW MATERIALS
96100
VIEW PAST SESSIONS
96110
VIEW ASSIGNMENTS
96120
FAQ
96130
SUBMIT ASSIGNMENTS
96140
REVIEW PAST TESTS
96150
INSTRUCTOR FEEDBACK
96160
RETURN
96210

FIGURE 96

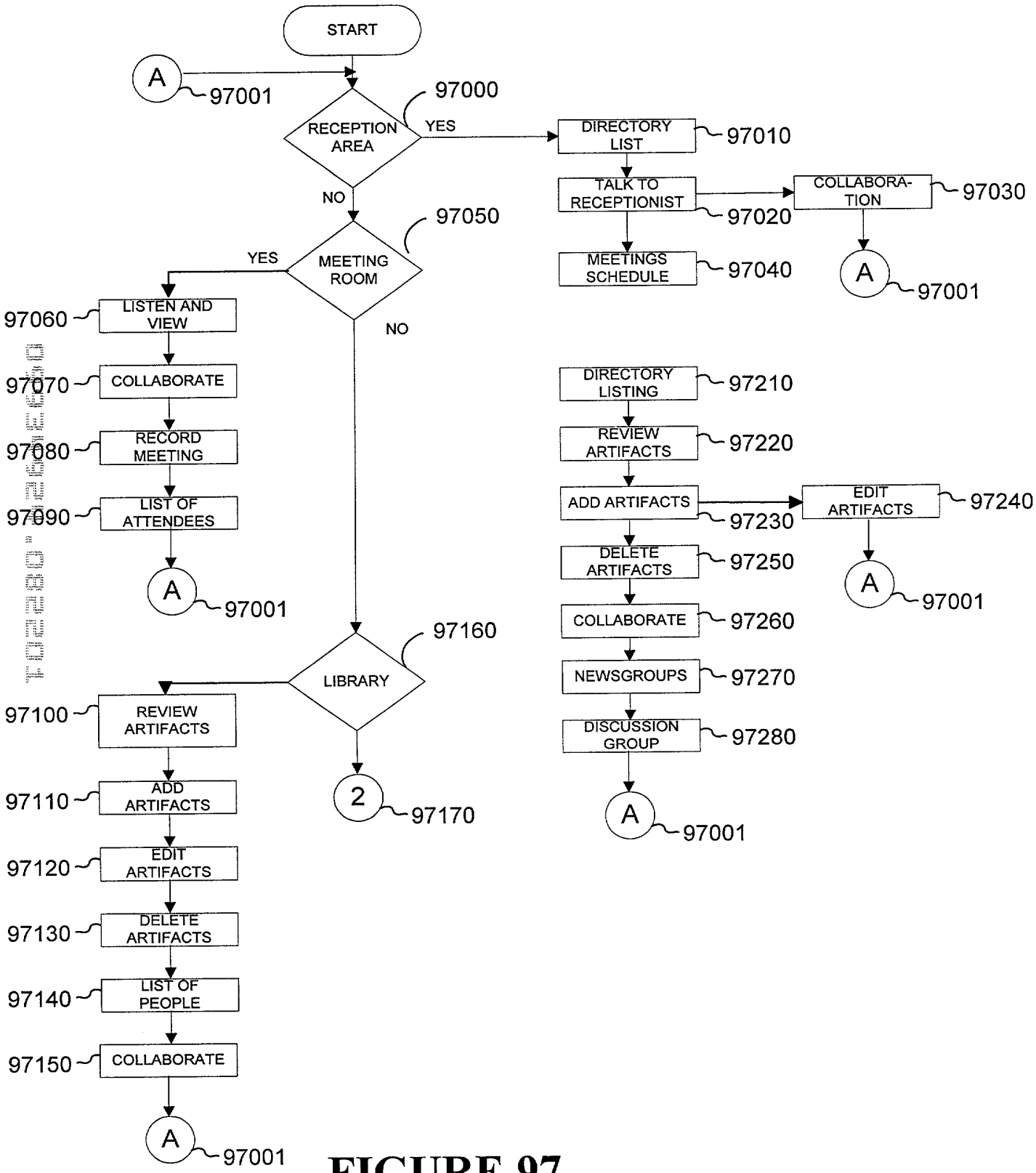

START
A
97001
97000
RECEPTION AREA
YES
DIRECTORY LIST
97010
TALK TO RECEPTIONIST
97020
COLLABORA-TION
97030
MEETINGS SCHEDULE
97040
A
97001
NO
97050
MEETING ROOM
YES
NO
97060
LISTEN AND VIEW
97070
COLLABORATE
97080
RECORD MEETING
97090
LIST OF ATTENDEES
A
97001
DIRECTORY LISTING
97210
REVIEW ARTIFACTS
97220
ADD ARTIFACTS
97230
EDIT ARTIFACTS
97240
A
97001
DELETE ARTIFACTS
97250
COLLABORATE
97260
NEWSGROUPS
97270
DISCUSSION GROUP
97280
A
97001
97160
LIBRARY
97100
REVIEW ARTIFACTS
97110
ADD ARTIFACTS
97120
EDIT ARTIFACTS
97130
DELETE ARTIFACTS
97140
LIST OF PEOPLE
97150
COLLABORATE
A
97001
2
97170

FIGURE 97

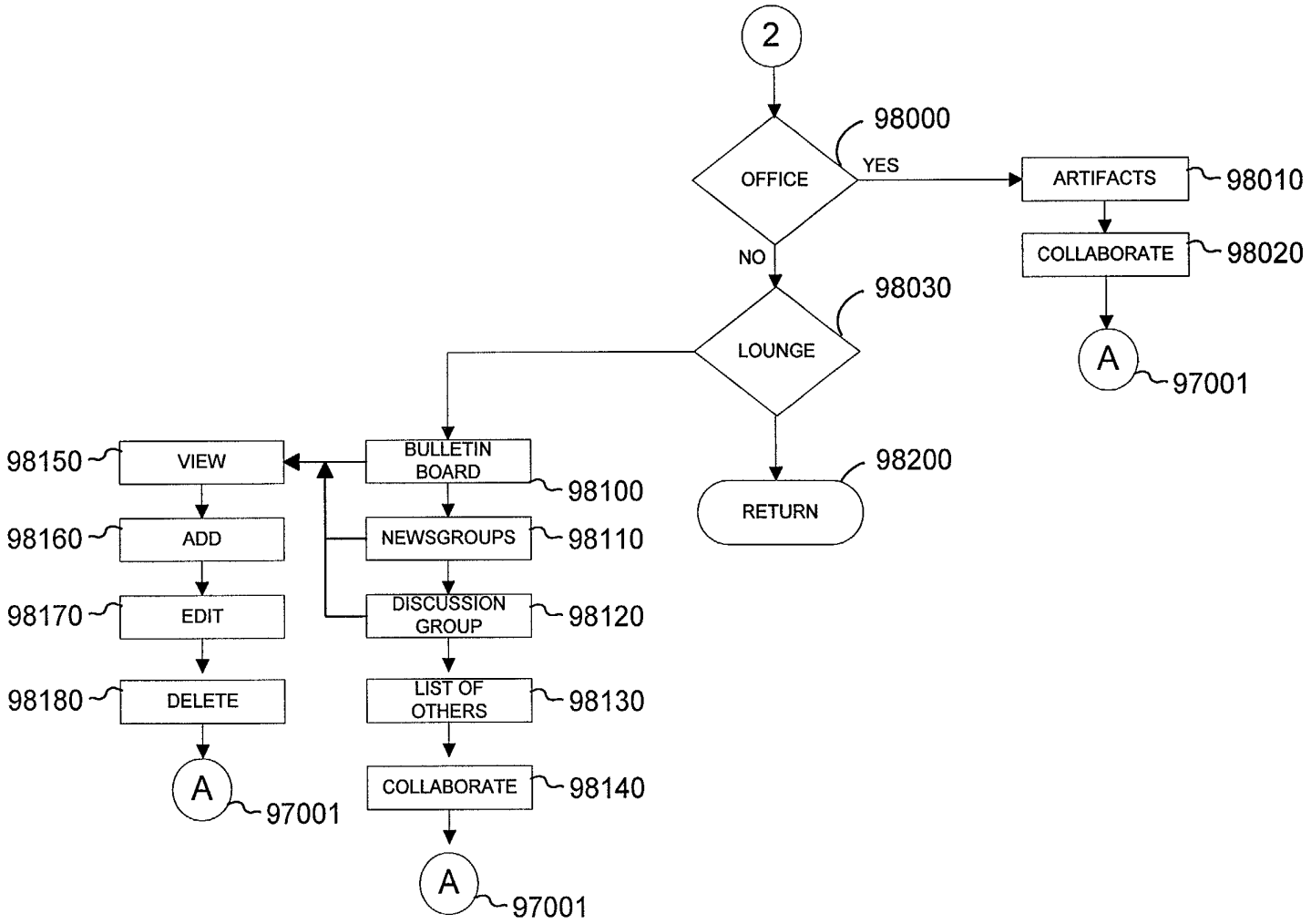

2
98000
OFFICE
YES
ARTIFACTS
98010
COLLABORATE
98020
A
97001
NO
98030
LOUNGE
98200
RETURN
98150
VIEW
98160
ADD
98170
EDIT
98180
DELETE
A
97001
BULLETIN BOARD
98100
NEWSGROUPS
98110
DISCUSSION GROUP
98120
LIST OF OTHERS
98130
COLLABORATE
98140
A
97001

FIGURE 98

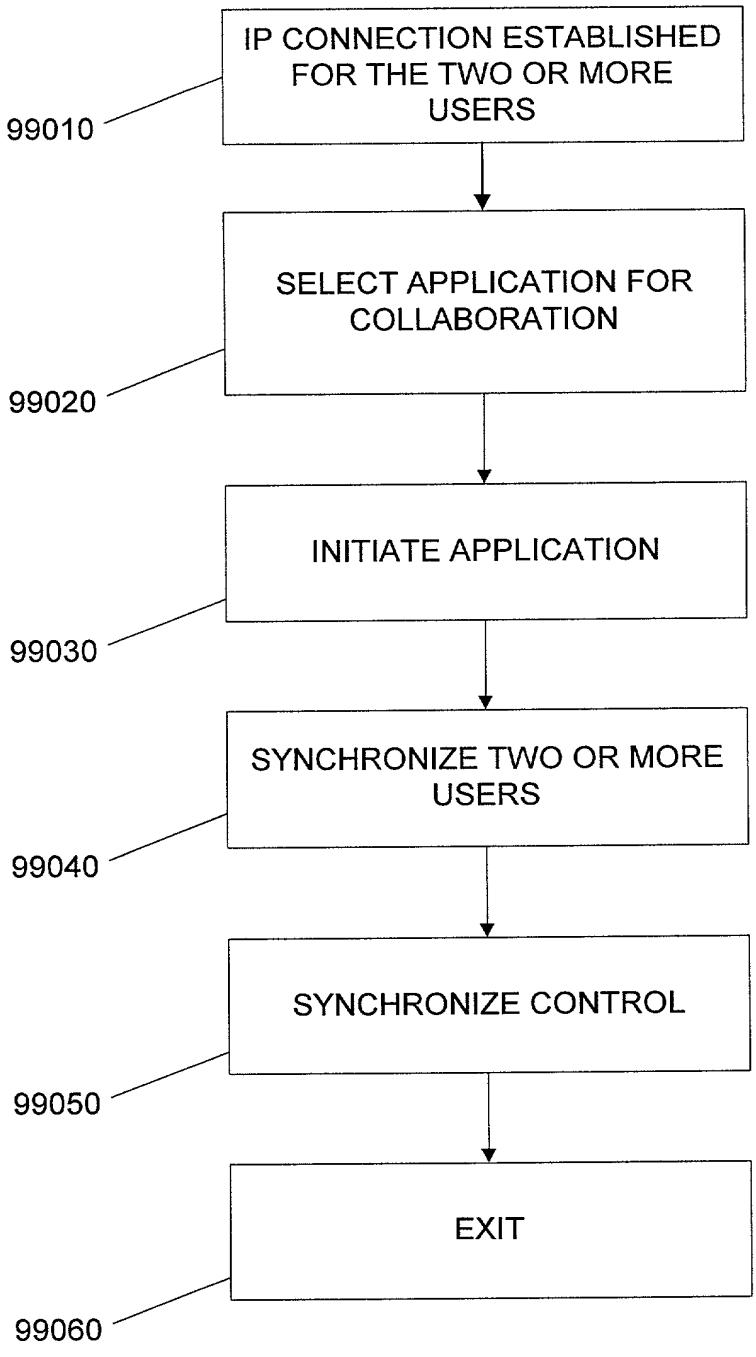

IP CONNECTION ESTABLISHED FOR THE TWO OR MORE USERS
99010
SELECT APPLICATION FOR COLLABORATION
99020
INITIATE APPLICATION
99030
SYNCHRONIZE TWO OR MORE USERS
99040
SYNCHRONIZE CONTROL
99050
EXIT
99060

FIGURE 99